DUKE UNIVERSITY

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# BULLETIN OF DUKE UNIVERSITY 

## Financial Report



1948-49

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## BULLETIN OF

## Duke University

FINANCIAL REPORT

Year Ended June 30, 1949


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## BOARD OF TRUSTEES

Willis Smith, Chairman<br>James A. Bell, Vice-Chairman

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## EXECUTIVE COMMITTEE

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A. Hollis Edens

Willis Smith, Chairman

| R. L. Flowers | A. H. Sands |
| :--- | :--- |
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| W. N. Reynolds |  |

## GENERAL OFFICERS

A. Hollis Edens, President
R. L. Flowers, Chancellor
W. H. Wannamaker, Vice-Chancellor Paul M. Gross, Vice-President
C. E. Jordan, Vice-President and Secretary of the University H. J. Herring, Vice-President and Dean of Trinity College
A. S. Brower, Business Manager and Comptroller
C. B. Markham, Treasurer of the University
G. C. Henricksen, Assistant Business Manager and Assistant Comptroller E. B. Weatherspoon, Assistant Secretary of the University

* Died April 14, 1949.

581563

## LETTER OF TRANSMITTAL

To the Board of Trustees of Duke University:
There is submitted herewith the consolidated report of the financial condition of Duke University for the fiscal year which ended June 30, 1949. The Balance Sheets and the related Conderised Statements of Revenue and Expenditures are accompanied by the report of Peat, Marwick, Mitchell \& Co., Certified Public Accountants, who were engaged to examine the accounts of the University.

The Balance Sheet is in the usual form, and requires no particular comment, other than to point out that it does not include any portion of the indivisible corpus of The Duke Endowment the income of which, subject to the terms of the Trust Indenture, accrues to Duke University. As a beneficiary of The Duke Endowment, Duke University received from this source during the fiscal year the sum of $\$ 1,297,112.95$.

The Condensed Operating Statement shows that the University closed the fiscal year with revenue in excess of expenditures, $\$ 27,414.39$. This very favorable year of operation was brought about by the fact that income from endowment sources, due to the high level of business activity, was in excess of expectations.

The great importance of gifts and grants to the University is well illustrated by the fact that they totaled during the last fiscal year a gross amount, including the 1947-48 Loyalty Fund, of $\$ 2,530,213.57$. Even though a large proportion was for building and expansion of plant, it is also evident that the support of research and even the balancing of the University budget is dependent upon this source of income.

Duke University is constantly being called upon for increased services in the field of research and the training of students at the graduate level. What it can do is directly limited by the funds available for the support of these activities and the physical facilities in which they must be carried on. It is our belief that the friends and supporters of the University will continue and expand their generous support, and thus make possible the continuation and strengthening of the work being undertaken.

Respectfully submitted,
C. B. Markham, Treasurer. A. S. Brower. Business Manager and Comptroller.
Durham, N. C., November 1, 1949.

# PEAT, MARWICK, MITCHELL \& CO. 

Accountants' Report

To the Board of Trustees, Duke University, Durham, North Carolina

We have examined the balance sheet of Duke University as of June 30, 1949 and the related condensed statement of revenue and expenditures for the fiscal year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

The accounts of Duke University do not include as endownent that portion of the indivisible Corpus of The Duke Endowment, the income of which accrues to Duke University, subject to the terms of an indenture dated December 11, 1924, whereby Mr. James B. Duke established a trust to be administered for educational and charitable purposes.

Land, buildings and equipment are stated in the accompanying balance sheet at amounts shown by the books without provision for depreciation or obsolescence; further, it is not the practice of the University to record all transactions for assets discarded or replaced.

In our opinion, with the explanations set forth in the two preceding paragraphs, the accompanying balance sheet and condensed statement of revenue and expenditures present fairly the financial position of Duke University at June 30, 1949 and the results of its operations for the fiscal year then ended, in conformity with generally accepted accounting principles.

PEAT, MARIVICK, MITCHELL \& CO.

Greensboro, N. C., September 23, 1949.

## BALANCE SHEET

As of June 30, 1949
ASSETS
Current Fund:
Cash
\$ 76,473.32
Accounts receivable, after deducting $\$ 571,198.26$ in respect to $100 \%$ reserve against hospital patients' accounts
Inventories-at cost
Due from other funds
Temporary investments
Investment in dwellings-at cost, less amortization, $\$ 16,581.47$
Deferred charges
256,581.17
587,982.70
236,930.21
538,425.64
$45,334.68$
7.391 .77
\$ 1,749,119.49

945,252.80
22,174.35
648.16

148,637.84
470,092.39
$1,586,805.54$
Funds Functioning as Endowment:
Cash
Accounts receivable
Investments
120,156.23
2,734.41
11,219,207.95
$11,342,098.59$
Endowment Funds :
Cash
Investments
Endowed Special Funds:
Cash
Investments
68,065.63
367,897.42
435,963.05
Scholarship Funds:
Cash
Investments
302,955.53
500,277.46

142,163.65
52,126.30
286,102.14
480,392.09
Plant Funds:
Cash
169,660.96
Notes receivable
Accounts receivable
Due from Current Fund
15,191.41
19,000.00
26,298.59
Investments
Land, buildings and equipment, including library books
Deferred building costs
37,069,500.96
55,560.00
$38,246,882.86$
Agency Funds:
Cash
18,179.83
Notes receivable-student loans
Accounts receivable
Investments
118,376.54
2,088.00
260,709.41

## BALANCE SHEET

As of June 30, 1949

## LIABILITIES

Current Fund:
Accounts payable and encumbrances:
Accounts payable
\$ 103,759.19

Purchase orders and other encumbrances

| $564,448.70$ |  |
| ---: | ---: |
| $668,207.89$ |  |
| $174,936.43$ |  |
| $11,401.69$ |  |
| $252,587.66$ |  |
| $641,985.82$ | $1,749,119.49$ |
|  |  |
| $\underline{1,586,805.54}$ | $1,586,805.54$ |
| $393,551.94$ <br> $10,948,546.65$ | $11,342,098.59$ |

Endowment Funds:
Principal of funds with income designated for general purposes (See Note)

3,895,511.59 3,895,511.59
Endowed Spectal Funds:
Principal of funds with income
designated for restricted purposes $\quad 364,852.05$
Surplus expendable
71,111.00
435,963.05
Scholarship Funds:
Principal of funds with income
designated for scholarship aid
Surplus expendable
603,317.01
199,915.98
803,232.99
Student Loan Funds:
Principal of funds with income designated for student loans

222,008.20
Principal of funds available for loans

$$
60,514.05
$$

282,522.25
Surplus available for loans
197,869.84
480,392.09
Plant Funds:
Due to Current Fund
Investment in plant
Balance of funds, reserve for plant additions

233,938.16
37,069,500.96
943,443.74 $38,246,882.86$
Agency Funds:
Due to Current Fund
Balance of funds:
Returnable to principals
Expendable for restricted purposes Subject to annuity agreement

2,992.05
104,644.55
27,663.32
264,053.86
396,361.73

399,353.78
$\$ 58,939,359.98$

Note. The accounts do not include that portion of the indivisible Corpus of The Duke Endowment, the income of which accrues to Duke University subject to the terms of a Trust Indenture dated December 11, 1924.

# DUKE UNIVERSITY <br> CONDENSED STATEMENT OF REVENUE AND EXPENDITURES 

For the Fiscal Year ended June 30, 1949

## Revenue

Educational and general :
Endowment income
Loyalty fund (1947-48)
Loyalty fund (1948-49, expendable for general purposes in 1949-50)
Gifts and grants for research
Gifts for the libraries
Gifts for current expenses
Tuition and fees
Investment income
Forest operations
Other income
\$ 2,136,521.26
107,980.27
148,637.84
688,967.99
44,199.00
27,558.34
2,441,576.67
31,322.05
19,707.18
163,212.36

Less amounts transferred to balances expendable for designated purposes
Net revenue from auxiliary enterprises
Non-educational:
Gifts for fellowships and scholarships
Gifts for miscellaneous purposes
142,034.03
Investment income
77,839.75
82,864.07
302,737.85
Less amounts transferred to balances expendable for designated purposes

33,133.81
269,604.04
Land, buildings and equipment :
Gifts
Investment income
Land sales and other income
1,292,996.35
37,714.19
31,563.67
1,362,274.21
Add amounts transferred from balances expendable for plant
$416,611.05$
1,778,885.26
7,866,513.38

## DUKE UNIVERSITY CONDENSED STATEMENT OF REVENUE AND EXPENDITURES

For the Fiscal Year ended June 30, 1949

## Expenditures

Educational and general :

| Administration | \$ | $464,259.80$ |
| :--- | ---: | ---: |
| General operations | $192,307.08$ |  |
| Instruction | $2,986,103.16$ |  |
| Research | $675,293.30$ |  |
| General libraries | $304,140.39$ |  |
| Summer school | $138,167.68$ |  |
| Forest operations | $17,594.98$ |  |
|  | $4,577,866.39$ |  |
| Physical plant | $1,089,118.95$ | $\$ 5,666,985.34$ |
| eficit from operation of related activities |  | $44,888.25$ |

Non-educational:
Fellowships and scholarships 141,501.49
Transfers to principal of Scholarship Funds 52,639.41
Miscellaneous
128,663.14
322,804.04

| Expended from restricted funds for land, |
| :---: |
| buildings and equipment |

Net Revenue for Fiscal Year

| $1,804,421.36$ |
| :--- |
| $7,839,098.99$ |
| $27,414.39$ |

## SCHEDULE A-ENDOWMENT FUNDS

BOOK VALUE
Centennial Endowment Fund
Gifts from a number of individuals in connection with the Centennial celebration of Duke University; the income to be used annually, in the judgment of the Trustees, for the benefit of the University.
$\$ 34,262.73$
Angier Buchanan Duke Endowment Fund
Established 1923 by bequest of Angier Buchanan Duke, '05; to be added to the general endowment of the University.
$251,465.83$
B. N. Duke Endowment Fund

Established 1913 by gift from Benjamin Newton Duke; to be added to the general endowment of the University.

454,592.70
Sarah P. Duke Bequest to the B. N. Duke Endowment
Established 1939 by bequest from Mrs. Sarah Pearson Duke; one-half of the net income to be used for the general purposes of the University; and one-half of the net income to be used for the establishment of the B. N. Duke Scholarships.
$476,012.01$
J. B. Duke Endowment

Established 1913 by gift from James Buchanan Duke; to be added to the general endowment of the University.
$1,501,117.92$
Washingron Duke Endowment
Established 1897 by gift from Washington Duke; to be added to the general endowment of the University.
$163,485.67$
C. C. Dula Endowment

Established 1927 by gift from Caleb C. Dula; to be added to the general endowment of the University.

202,359.11

## General Education Board Endowment

Established 1923 by gift from the General Education Board; to be added to the general endowment of the University.

296,229.20
General Endowment
Established to accumulate sundry endowment gifts, the principal ones being from the General Education Board.
$165,454.80$
Florence Raymond McAlister Chair of Medicine and
Medical Research
Established 1936 by gift from Mrs. Amelie McAlister Upshur,
as a memorial to her sister.
W. R. Perkins Endowment

Established 1945 by bequest from William R. Perkins; to be added to the general endowment of the University.

149,352.11
Avera Bible Fund
Established 1895 by gift of Mrs. L. B. McCullers in memory of her husband, Willis H. Avera; the income to be used for the purchase of books for the Divinity School Library and for the support of the Avera Bible Lectures. ..... \$ 2,892.12
Isaac Erwin Avery FundEstablished 1905 from the proceeds of the sale of the publicationof "Idle Comments," a collection of the writings of Isaac ErwinAvery ' 94 ; the income to be used for the purchase of books inthe field of journalism.968.85
John Spencer Bassett Memorial Fund
Established by miscellaneous gifts in memory of John Spencer Bassett, formerly Professor in Trinity College; the income to be used for the purchase of books for the Library. ..... 639.53
Robert Spencer Bell Student Aid Fund
Established 1942 by Mr. James A. Bell '86, of Charlotte, N. C., in memory of his son, Robert Spencer Bell; the income to be used in providing annually a prize for one or more students evidencing the greatest improvement in his college work during the year. ..... $8,9+0.00$
Joseph G. Brown Book Fund
Established 1921 by gifts of various individuals in honor of Joseph G. Brown '75, chairman of the Board of Trustees 1917- 27 ; the income to be used for the purchase of books for the Library. ..... 4,851.66
Christian Education Fund
Miscellaneous contributions over a period of many years; to be used for various purposes designated by the donors. ..... 4,480.05
Class of 1909 Fund
Established by members of the Class of 1909 ; the income to be used for the purchase of books for the General Library. ..... 1,306.46
Class of 1910 Fund
Donation by members of the Class of 1910 ; to be used for the general purposes of the University. ..... 148.48
Class of 1915 Fund
Miscellaneous donations by the members of the Class of 1915 in connection with the Centennial celebration of Duke Univer- sity; to be used for the general purposes of the University. ..... $1,348,87$
Class of 1917 Fund
Miscellaneous contributions by the members of the Class of 1917; to be used for the general purposes of the University. ..... 27.96
Class of 1918 Fund
Miscellaneous contributions by the members of the Class of1918; for the general purposes of the University.487.42
Crowell Science Lecture Fund
Established 1921 by contributions from various individuals; the income to be used for annual lectures on scientific subjects. ..... 1,557.79

# Schedule B (Continued)-Endowed Special Funds 

BOOK VALUE

## Julia Dale Memorial Fund

Contributions by friends and relatives in memory of Miss Julia Dale; the income to be used to provide annually for the Julia Dale Prize in Mathematics.
726.36

Duke Memorial Chapel Maintenance Fund
Established 1930 by Mr. James A. Thomas; the proceeds to be used toward the maintenance of the Duke Memorial Chapel.
$2,207.50$
Duke Monument Fund
Established to provide for the perpetual maintenance of the statue of Washington Duke.

1,296.62
Anne Flexner Memorial Fund
Established October, 1947, by Dr. Morris Flexner and Mrs. Marion IV. Flexner, in memory of their daughter, Anne Flexner ' 45 ; the income to be used for an annual award to the student who does the most outstanding piece of creative writing.

1,517.59
George Washington Flowers Memorial Fund
Established 1941 by bequest of Willian W. Flowers '94, in memory of his father, George Washington Flowers; the income to be used for the purchase of manuscripts, books and other printed or photographed materials dealing with the life and thought of the Southern states of the United States of America.
$200,000.00$
John McTyeire Flowers Lecture Fund
Established 1915 by gift of Mr. B. N. Duke in memory of John McTyeire Flowers; the income to be used for lectures dealing with the subject of Christian citizenship.

8,948.23
William Fraxcis Gill Memorial Fund
Established 1918 by gifts of several individuals; in memory of William Francis Gill, for many years Professor of Latin in Trinity College; the income to be used for a collection of books in the General Library in the field of Latin.
P. Huber Hanes Fund

Established 1939 by gift of P. Huber Hanes '00; the income to be used as follows: three-fifths for the support of the P. Huber Hanes Scholarships : one-fifth to the P. Huber Hanes, Jr. ('37) Scholarship; and one-fifth to the Duke University Press.

55,159.47
Charles IV. Hargitt Research Fellowship in Zoology
Established 1939 by Dr. George T. Hargitt; the proceeds to be used for establishing a research fellowship in Zoology, to be named in memory of Charles W. Hargitt.
Winfred Quinton Holton Memorial Fund
Established 1922 by gifts of Holland Holton '07 and Mrs. Lela Young Holton '07, in memory of their son. Winfred Quinton Holton; the income to be used to provide a prize for investigative work in primary education.
Henry Harrison Jordan Memorial Fouvdation
Established 1947 by gifts from Mrs. George Way, B. Everett Jordan '18, H. W. Jordan, Charles E. Jordan '23, Mrs. H. C. Sprinkle, Jr. '24, and Frank B. Jordan '27, children of Reverend Henry Harrison Jordan, of the residue of the estate of their father, supplemented by additional gifts; the income to be used for the support of the Ministers' Loan Library of the Duke Divinity School.

## Schedule B (Continued)-Endowed Special Funds

## Library Endowament Fund

Established 1939 by contributions from a number of individuals in connection with the Centennial celebration of Duke University; the income to be used for the General Library of Duke Unıversity.
Methodist College Advance Fund
Established by contributions from the Western North Carolina Conference and the North Carolina Conference of the Methodist Church; the income to be used for scholarships for young men and women preparing for full time service in the work of religious education, and for a program of educational service to ministers already in the field. This plan would permit the use of the funds for special conferences, expansion of the Minister's Loan Library, short-term winter courses, and other services, particularly to rural churches.
Albert Milmow Prize in Electrical Engineering
Established 1935 by gift of Albert Milmow; the income to be used in providing annually a prize to the student in Electrical Engineering who shows the greatest progress in electrical engineering.
Ormond Memorial Fund
Established 1924 by Dr. J. M. Ormond '02 and Mrs. Ormond, in memory of his mother and father, Mr. and Mrs. J. J. Ormond; the income to be used for the purchase of a collection of books on the rural church for the Library of the Divinity School at Duke University.

1,727.78
Publications Sinking Fund
Established by the Publications Board of Duke University, to serve as a reserve for the publications operated under its direc-
tion.

20,229.83
950.00

Gratton Williams Fund
Established 1920 by bequest of Gratton Williams; the income to be used for the general purposes of Duke University, particularly for the development of the Library.

1,459.20
James J. Wolfe Memorial Fund
Established 1921 by his friends and former students in memory of Dr. James J. Wolfe, Professor of Biology at Trinity College from 1904 until his death in June, 1920; the income to be used to purchase for the Library periodicals relating to biology.

1,948.92
Lizzie Taylor Wrenn Foundation
Established 1921 by gift from Mrs. May Wrenn Morgan '08 and her husband, John Allen Morgan '06, in memory of Mrs. Morgan's sister, Lizzie Taylor Wrenn '12; the income to be used for the purchase of books for the Library of Duke University.

# SCHEDULE C-SCHOLARSHIP FUNDS 

## Fred Solle Aldridge-Durham County Alumni Scholarship Fund

Established December, 1947 by gift of Fred S. Aldridge '98 and Mrs. Aldridge and includes subsequent annual contributions from the Durham County Alumni; the income to be used for scholarship aid, preference to be given to young men from Durham County.
\$ 3,894.00

## George G. Allen Scholarship Fund

Established July, 1947 by gift of Mr. George G. Allen; the income to be used for scholarship aid to deserving boys and girls from Warren County, N. C., and, under certain conditions, for other worthy students.
Aluminae Scholarship Fund
Established May, 1940 by the Alumnae Association, in connection with the celebration of the Centennial of Duke University; the income to be used for scholarship aid to young women students of the Woman's College.

## Alumini Memorial Scholarship Fund

Established December, 1943 by several donors, in memory of alumni of Duke University who lost their lives during World War II; the income to be used for scholarship aid to worthy students.

## Atlanta Alumin Scholarship Fund

Established May, 1941 by gifts of members of the Alumni Association of Atlanta, Ga.; the income to be used for scholarship aid to worthy students.

3,716.55

## Alice M. Baldwin Scholarship Fund

Established June, 1945 and supplemented from time to time, by gifts from students and alumnae in honor of Alice M. Baldwin, Dean of the Woman's College, 1923-1947; to be used for scholarship aid to undergraduate students in the Woman's College.

18,115.76
Banks-Bradshall Scholarship Fund
Established 1913 by gift of Messrs. W. L. Banks and Mike Bradshaw '78; the income to be used for scholarship aid to worthy students.

## Herbert J. Bass Scholarship

Established 1900 by gift of Mr. and Mrs. Herbert J. Bass of Durham, N. C., in memory of their son, Herbert J. Bass, Jr.; the income to be used for scholarship aid to worthy students.

## Edgar S. Bowling Scholarship Fund

Established 1928 by gift of Edgar S. Bowling '99 in memory of his sister, Mrs. Maye Bowling Bennett '12; the income to be used for scholarship aid, preference to be given to boys and girls from Durham and adjoining counties.
Elizabeth Crowell Carnes Foundation
Established January, 1948 by bequest of Elizabeth Crowell Carnes, in memory of her parents, Jonas William Crowell and Virginia Vick Crowell; the income to be used for scholarship aid for young men and women of Duke University.

## Centenvial Scholarship Fund

Established 1939 by gifts from several donors in connection with the Centennial celebration of Duke University; the income to be used for scholarship aid to worthy students.

## Christian Edecation Scholarship Fuxd

Established by various contributions designated for scholarships in the Christian Education Movement, and includes contributions from Julian S. Carr, Mrs. Annie A. Foushee, C. T. Johnson, H. E. Myers, the Pegram Family, IV. P. Suggs, E. T. White, Mr. and Mrs. J. C. Braswell and Mrs. R. C. Bruton, in memory of Alexander Walker; the Alumni of Harnett County, and others; the income to be used for scholarship aid to worthy students.

8,910.68

Class of 1906 Scholarship Fund
Established July, 1937 by gifts from several members of the Class of 1906; the income to be used for scholarship aid to worthy students.
Class of 1912 Scholarship Fund
Established by gifts from several members of the Class of 1912; the income to be used for scholarships to worthy students.

7,242.78

1,160.97
712.93

Class of 1914 Scholarship Fund
Established December, 1938 during the Centemnial celebration of Duke University, by various members of the Class; the income to be used for scholarship aid to worthy students, preference to be shown to descendants of the members of the Class of 1914.
Class of 1918 Scholarship Fund
Established by gifts from several members of the Class of 1918; the income to be used for scholarship aid to worthy students.
423.07
E. M. Cole Foundation

Established 1920 by E. M. Cole, Charlotte, N. C.; the income to be used for scholarships for the benefit of undergraduate students preparing for the ministry.

17,998.62
Robert B. Cox Scholarship Fund
Established 1949 by gift of Robert L. Wolf. Subsequent gift of Wright T. Dixon, Jr. The income to be used for scholarship aid for undergraduate men.
275.00

## Will L. Cuninggin Scholarship <br> Established 1934 by bequest of Mrs. W. L. Cuninggim, and

 supplemented by bequest of Mrs. Albert Bourne, in memory of Reverend Will L. Cuninggim; the income to be used for scholarship aid, preference being given to graduates of the Methodist Orphanage, Raleigh, N. C.9,727.97
Rose M. Davis Scholarship Fund
Established 1941 by Dr. Rose M. Davis; the income to be used for scholarship aid.
275.99

Divinity School Miscellaneous Scholarship Fund
Contributions by various churches and individuals for use currently for scholarship aid to designated individuals.

## Schedule C (Continued)-Scholarship Funds

Jere R. Downing Scholarship Fund
Established 1936 by Mrs. Alice M. Downing and her son, J. Robert Downing '35, as a memorial to their husband and father, Jere R. Downing of Kennebunk, Me.; the income to be used for scholarship aid, preference to be given to students from New England.
Duke Dad's Day Scholarship Fund
Established 1941 by contributions of fathers attending the Duke Dad's meeting ; to be used for scholarship aid.
B. N. Duke Scholarship Fund

Established 1939 by bequest of Mrs. Sarah P. Duke in memory of her husband, Benjamin N. Duke; comprised of one-half of the income earned by the bequest of Sarah P. Duke to th B. N. Duke Endowment Fund; to be used for scholarship aid to worthy and needy students of Duke University.
Duke University Sundry Scholarships Gifts by miscellaneous donors for current use as scholarships.
N. Edward Edgerton Scholarship Fund

Established May, 1940 by gift of N. Edward Edgerton '21 of Raleigh, N. C.; to be used only for scholarship aid to candidates for the B.D. degree in the Divinity School of Duke University.
Engineering Scholarship Fund
Established by gifts of various persons; to be used for scholarship aid to engineering students.
William P. Few Memorial Scholarship
Established 1942 by gifts from various persons; to be used for scholarship aid to worthy students.

## Arthur Ellis Flowers Scholarship

Established 1901 by Col. and Mrs. George W. Flowers, in memory of their son, Arthur Ellis Flowers; the income to be used for scholarship aid to worthy students.
George W. Flowers Scholarship Fund
Established June, 1927 by gift of Claude M. Flowers, '09, in memory of his father, Col. Geo. W. Flowers, for many years a Trustee of Trinity College; the income to be used for scholarship aid to needy and worthy students.
Robert L. Flowers Scholarship Fund
Established May, 1939 by gift of R. L. Flowers; income to be used for scholarship aid to worthy students.
$1,529.28$
R. L. Flowers Trust Scholarship Fund

Established 1948 by bequest of Lily Parrish Flowers; the income to be used for scholarship aid for worthy students.
$21,125.00$
General University Scholarship Fund
Miscellaneous gifts from numerous persons; to be used currently for scholarship aid to worthy students.
14.127 .50

Guilford County Scholarship Fund
Established 1941 by miscellaneous gifts of several persons; the income to be used for scholarship aid to worthy students.

## Schedule C (Continued)-Scholarship Funds

A. H. Gwyse Scholarship FuxdEstablished May, 1941 by Judge A. H. Gwynn '18; the incometo be used for scholarship aid to worthy students.305.00
P. Huber Hanes Scholarship Fund
Established 1939; consisting of $3 / 5$ of the income accruing annually to the P. Huber Hanes Fund; to be used for scholar- ship aid; one scholarship in the School of Religion; two schol- arships to members of the families of Alumni ; and two general scholarships. ..... 4,892.69
P. Huber Hanes, Jr., Scholarship Fund
Established 1939: consisting of $1 / 5$ of the income accruing an-nually to the P. Huber Hanes Fund; to be used for two schol-arships for junior or senior students majoring in BusinessAdministration.$3,645.12$
B. D. Heath Scholarship Fund
Established 1903 by B. D. Heath; to be used for scholarship aid to worthy students from Union County, N. C. ..... 3,307.38
High Point Scholarship FundEstablished by gifts of members of the High Point AlumniAssociation, in connection with the celebration of the Centennialof Duke University; the income to be used for scholarship aidfor students who are graduates of the High Point, N. C., HighSchool.5,454.38
George M. Ivey Scholarship Fund
Established December 8, 1948 by gift of George M. Ivey; the income to be used for scholarship aid for deserving students in the Divinity School. ..... $10,000.00$
Hunter Jones Scholarship Fund
Established December, 1947 by gift of Hunter Jones '19, Dur- ham, N. C.; the income therefrom to be used for scholarship aid to worthy students. ..... 2,793.31
Henry Harrison Jordan Memorial Scholarship FundEstablished December, 1938 by gifts from Mrs. George Way,B. Everett Jordan '18, H. W. Jordan, Charles E. Jordan '23,Mrs. H. C. Sprinkle, Jr., '24, and Frank B. Jordan '27, inmemory of their father, Reverend Henry Harrison Jordan, amember of the Western North Carolina Conference; the in-come to be used for scholarship aid to worthy students.7,929.56
Josten's Scholarship Fuxd
Contributions by Josten's; to be used currently for scholar- ship aid ior worthy students. ..... 50.00
J. M. Judd Scholarship FundEstablished 1922 by Dr. J. M. Judd '95, of Varina, N. C.,with directions that the earnings be allowed to accumulate untilsuch time as they are sufficient to provide a four-year tuitionscholarship.1,911.88

# Schedule C (Continued)-Scholarship Funds 

BOOK VALUE

Gurney Harriss Kearns Scholarship Fund
Established 1935 by gifts of Mr. and Mrs. Gurney Harriss Kearns '97, High Point, N. C., supplemented by Amos R. Kearns '27 and Charles L. Kearns '32, and Katherine Kearns Cheek; the income to be used for one or more fellowships for advanced graduate study and research in the field of American religious thought and practice at Duke University.

70,009.44
W. K. Kellogg Foundation Scholarship Fund for Nurses

Established by contribution by the W. K. Kellogg Foundation; the entire sum to be used currently for scholarship aid to students in training in the School of Nursing.
700.00
W. K. Kellogg Foundation Scholarship Fund
for Technicians
Established by contribution by the W. K. Kellogg Foundation; the entire sum to be used currently for scholarship aid to students preparing as medical technicians.

2,000.00
Frank S. Lambeth Scholarship Fund
Established 1930 by bequest of Col. Frank S. Lambeth '80; the income to be used for scholarship aid to worthy students of Duke University.
Laurinburg Christian Education Scholarship Fund
Established December 11, 1948 by gift through the Methodist College Advance; the income to be used for scholarship aid for worthy students of the Divinity School.
D. M. Litaker Scholarship Fund

Established 1946 by gift of Mr. Charles H. Litaker '28, in memory of his father, Dr. D. M. Litaker '90, who for 47 years was an active minister in the Methodist Church; the income and, under certain conditions, a part of the corpus of the fund to be used for scholarship aid for undergraduate students, natives of the territory now embraced by the Western North Carolina Conference, who are preparing for the ministry.

12,132.11
Mary Elizabeth Duke Lyon Scholarship Fund
Established 1942 by Mrs. Mary Washington Stagg, in memory of her mother, Mary Elizabeth Duke Lyon; the income to be used for scholarship aid for worthy students.

6,037.25
The McAlister Scholarship Fund
Established December, 1935 by Mrs. Amelie McAlister Upshur in memory of her mother. Armantine Reynaud McAlister, and father, William Henry McAlister; the income to be used annually for a scholarship for one boy and one girl from each of the three states of North Carolina, South Carolina and Louisiana.
$125,345.86$
McCracken Memorial Scholarship Fund
Establisred 1945 by Thomas W. McCracken '15; the income to be used for scholarship aid for worthy students.

6,722,31
J. H. McCracken Memorial Scholarship Fund

Established 1947 by Dr. J. H. McCracken ' 22 and contributions from members of the First Methodist Church of Henderson, N. C., in memory of Reverend J. H. McCracken '92, for many years a member of the North Carolina Conference; income to be used for scholarship aid.

## Schedule C (Continued)-Scholarship Funds

The O. G. B. McMullan Scholarship Fund
Established 1913 by gift of Mr. O. G. B. McMullan of Elizabeth City, N. C.; the income to be used for scholarship aid for worthy students, preference to be given to residents of Perquimans and Pasquotank Counties, N. C.

## R. A. Mayer Scholarship Fund <br> Established 1939 by gift of R. A. Mayer '96, in memory of

 his father, Minor C. Mayer, and mother, Sarah R. Mayer, in connection with the Centennial celebration of Duke University, and supplemented subsequently by additional gifts; the income to be used for scholarship aid for worthy students, preference to be given to students from Mecklenburg County, N. C.$10,960.52$
W. H. Moore Scholarship Fund
Established 1920 in memory of Dr. W. H. Moore '71, by his Established 1920 in memory of Dr. W. H. Moore '1, by his
wife, Mrs. W. H. Moore, and daughters, Mrs. W. E. Steele, Miss Maude Moore, Mrs. T. L. Parsons, Mrs. J. H. Ihrie, and Mrs. J. LeGrand Everett; the income to be used for scholarship aid to worthy students.

1,737.88
Thomas R. Mullan, Jr., Scholarship Fund
Established April 5, 1949 by gift of T. R. Mullen in memory of his son; the income to be used for scholarship aid for worthy young men and women.
$15,200.00$
Myers Park Scholarship Fund
Established 1948 by contributions of the members of the congregation of the Myers Park Methodist Church, Charlotte, N. C. ; the income to be used for the benefit of the Divinity School.

6,350.09
J. A. Odell Scholarship Fund
Established 1897 by gift of Mr. James A. Odell; the income
to be used for scholarship aid to worthy students.
J. M. Odell Scholarship Fund

Established 1897 by gift of Captain J. M. Odell; the income to be used for scholarship aid to worthy students.

1,923.10
IV. R. Odell Scholarship Fund

Established 1940 by gifts from Fred C. Odell '02, Mrs. Ralph M. Odell, Arthur G. Odell '06, and others, in memory of William R. Odell '75, for more than 50 years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid for worthy students.

6,348.63
The W. R. Odell Divinity Scholarship Fund
Established June, 1946 by members and friends of the Forest Hills Methodist Church, Concord, N. C., in memory of William R. Odell '75; the income to be used for scholarship aid for students preparing for the Methodist ministry.
J. M. Ormond Scholarship Fund

Established December 11, 1948 by gifts through the Methodist College Advance; the income to be used for scholarship aid for worthy students of the Divinity School.

## Schedule C (Continued)-Scholarship Funds

BOOK VALUE

## Henry A. Page Scholarship Fund

Established January, 1942 by gift of Henry A. Page, Jr. '07, and Gertrude Wetherill Page, in memory of his father, Henry A. Page, for many years a member of the Board of Trustees of Duke University ; the income to be used for scholarship aid to worthy students, preferably those preparing for the study of medicine.
$13,660.21$
Edward Janes Parrish Scholarship Fund
Established 1921 by Mrs. Rosa Brown Parrish, in memory of her husband, Edward J. Parrish; the income to be used for scholarship aid to worthy students.

John T. Ring Scholarship Fund
Established 1919 by gift of Mr. S. G. Ring and family of Kernersville, N. C., in memory of John T. Ring '16, was was killed in France during World War I; the income to be used for scholarship aid for worthy students.
T. V. Rochelle Scholarship Fund

Established 1945 by T. V. Rochelle '14, High Point, N. C., and supplemented annually; the income to be used for scholarship aid for a worthy and needy student who is a graduate of the High Point, N. C., High School.

Elbert Russell Divinity School Scholarsifip Fund
Established 1943, and since that time supplemented annually, by gifts from friends and alumni of the Diviinty School, in honor of Elbert Russell, Dean and Professor of Biblical Interpretation of the Divinity School, 1926-1945; the income to be used for scholarship aid for students preparing for the ministry in the Divinity School.
Scholarship Fund-Anonymous
Established 1939 by an anonymous donor, and supplemented from time to time; the fund to be allowed to accumulate until such time as the donor may designate the use of the income for scholarship purposes.
J. Raynond Smith Scholarship Fuxd

Established 1939 by J. Raymond Smith '17, Mt. Airy, N. C., in connection with the Centennial celebration of Duke University; the income to be used for scholarship aid to worthy students.

## Hersey Everett Spence Scholarship Fund

Established December, 1947 by gifts of members of the Methodist Church of Sanford, N. C., through the Methodist College Advance Fund, in honor of Hersey Everett Spence '07, former pastor of that church and a member of the faculty of the Divinity School of Duke University.

5,269.52
Thomasville Scholarship Fund
Established 1940 by gifts of T. Austin Finch '09, and J. Walter Lambeth '16, by contributions made through the Centennial Fund; the income to be used for scholarship aid for worthy students.

## Financial Report <br> Schedule C (Continued)-Scholarship Funds

## Mary Neifby Tons Scholarship Fund

Established 1906 by gift of Mr. Clinton W. Toms and supplemented from time to time by additional gifts; in May, 1947, in connection with supplemental gifts to the Fund, it was established as a permanent endowment in memory of his wife, Mary Newby Toms; the income to be used for scholarship aid for worthy students, preference to be given to students from Durham and Perquimans Counties, N. C.

113,323.88
George W. Watts Scholarship Fund
Established 1897 by gift of Mr. George W. Watts; the income to be used for scholarship aid to worthy students.

1,963.10
Weatherby Scholarship Fund
Established 1912 by C. E. Weatherby, Faison, N. C.; the income to be used for scholarship aid to worthy students.

1,873.10
Woman's Panhellenic Scholarship Fund
Established May 25, 1949 by gift of the Woman's College Panhellenic Association; income to be used for scholarship aid for a rising senior in the Woman's College of Duke University.
$1,200.00$
TOTAL \$ 803,232.99

## NOTE

Certain Scholarship Funds established for the benefit of students of Duke University have independent trustees. The following information is furnished by the trustee:

## Mary Alyse Smith Scholarship Fund

"Established December, 1946 by Mary Alyse Smith '30 of Burlington North Carolina, and her father, Marvin B. Smith, with Durham Bank \& Trust Company as Trustee; supplemented in 1947 and 1948. Income to be used for scholarship aid to worthy North Carolina boys or girls entering Freshman Class.

## SCHEDULE D-STUDENT LOAN FUNDS

Alumin Loan Fund
Established 1915 by gift from the Alumni Association
Paul M. Barringer Bequest Fund
Established 1932 by bequest from Paul M. Barringer; the income to be used in educating worthy young people; preference to be given those from Rowan County, N. C.
Bynum Belote Loan Fund
Established 1924 by E. T. Belote of Asheville, N. C., in memory of his son, Alfred Bynum Belote, student 1923-24.
A. D. Betts Loan Fund

Established 1919 by Reverend G. W. Vick '11 and wife, in memory of Reverend A. D. Betts, a member of the North Carolina Conference; other contributions by Reverend W. A. Betts and Mrs. L. P. Wilkins; to be used for the aid of young men preparing for the ministry.

Fannie Carr Bivins Memorial Loan Fund
Established 1928 by the Alumnae Association in memory of Fannie Carr Bivins '96; income to be loaned to young women students upon the recommendation of the Alumnae Council and approval by Dean of Women.

## Christian Education Loan Fund

Established 1921 as a part of the Christian Education movement of the Methodist Church in North Carolina; for use as a general loan fund.

$$
1,070.09
$$

Class of 1902 Loan Fund
Established 1932 by the members of the class at their 30th Anniversary Reunion.
Jesse A. Cuninggim Loan Fund
Established 1896 by Reverend J. A. Cuninggim ' 90 ; to be loaned to young men preparing for the ministry.

12,684.15
Alexander Edens Memorial Loan Fund
Established 1920 by Lacy T. Edens '24, Cora R. Edens, John A. Edens, L. D. Edens '15, and L. F. Edens, in memory of Alexander Edens.

School of Forestry Loan Fund
Established 1940 by gifts of various persons; to be used for the aid of students in the School of Forestry.

General Loan Fund
Established 1900 by the North Carolina Conference, and supplemented from time to time by additional contributions by both the North Carolina Conference and the Western North Carolina Conference; to be used for no other purpose than to aid worthy students of the University.
W. O. Goode Educational Loan Fund

Established 1923 by Reverend W. O. Goode of the Western North Carolina Conference.

## Schedule D (Continued)-Student Loan Funds

Mary Hester Hambrick Loan Fund
Established 1925 by W. R. Hambrick, Haldah Satterfield, John Jackson Hambrick '16, and Dr. Robert T. Hambrick '19, in memory of Mary Hester Hambrick, wife and mother; loans to be made to any needy students, preferably from Person County, N. C .

## P. Frank Hanes Loan Fund

Established 1934 by P. Frank Hanes '11; administered by a Loan Fund Committee of the Law School; loans to needy and
deserving law students.

1,783.39
B. D. Heath Loan Fund

Established 1921 by B. D. Heath of Charlotte, N. C.; income to be used for students preparing for the ministry, preference to be given to one student annually from Union County, N. C.
$7,218.90$
Holaies-McCausland Loan Fund
Established 1946 by gifts of Alfred M. McCausland and Frances Holmes McCausland in memory of their parents. The principal or income to be used for loans to students in the Divinity School.

5,000.00
Holland Holton Memorial Loan Fund
Established March, 1948, by iriends and former students in memory of Holland Holton '07, Professor of Education and Director of the Summer School of Duke University for many years; to be used in helping worthy young men and women in securing a college education.

1,756.20
J. B. Ivey Loan Fund

Established 1922 by J. B. Irey of Charlotte, N. C.; to be used for loans for worthy students.

1,643.25
W. K. Kellogg Foundation Loan Fund for Medical Students
Established 1942 by gift of the W. K. Kellogg Foundation;
to be used for loans to medical students.
W. K. Kellogg Foundation Loan Fund for Medical

Tech nology
Established 1943 by gift of the W. K. Kellogg Foundation; to be used for loans to students in the field of medical technology.

2,000.00
W. K. Kellogg Fouxdation Loan Fuxd for Nurses
Established 1942 by gift of the W. K. Kellogg Foundation; to
be used for loans to students in the School of Nursing.
W. K. Kellogg Foundation Loan Fund for Physical

Therapy
Established 1943 by gift of the W. K. Kellogg Foundation; to be used for loans to students receiving training in physical therapy.
$4,000.00$
Medical Students Loan Fund
Established 1941 by gifts of various persons.
152.83

Ministerial Education Loan Fund
Established 1915 by the North Carolina Conference of the Methodist Church; to be used for loans to students preparing for the ministry.

William Neal Student Aid Fund
Established 1920 by John W. Neal in memory of his son, William Neal, student in 1919; to be used for loans to worthy and needy students.

2,039.50
North Carolina Conference Board of Christian
Education Loan Fund
Established 1931 by gift of the Board of Christian Education of the North Carolina Conference; to be used for loans to students preparing for the ministry, or other distinctive type of Christian service.
W. N. Reynolds Loan Fund

Established by W. N. Reynolds '86 of Winston-Salem, N. C.; to be used for loans to boys and girls of North Carolina seeking an education at Duke University; preference, however, to be given to graduates of the Nancy Cox Reynolds Memorial School, and the sons of employees of the R. J. Reynolds Tobacco Company, regardless of residence. In the discretion of the Executive Committee and under certain conditions, scholarships may be provided from the income from the fund.

3,239.62

328,649.06
Roanoke Rapids High School Loan Fund
Established 1925 by the graduating class of the Roanoke Rapids Established 1925 by the graduating class of the Roanoke Rapids
High School, Roanoke Rapids. N. C.; to be used for loans to students who are graduates of that school.
338.20

Ella Wescott Tuttle Loan Fund
Established 1923 by Reverend D. H. Tuttle ' 80 in memory of his wife, Ella Wescott Tuttle; to be used for loans to worthy young women seeking an education at Duke University.

1,843.58
Joshlua Vick Memorial Loan Fund
Established 1920 by Mrs. J. W. Vick in memory of her husband, Joshua Vick; to be used for loans to needy students.
978.13

## Wake County Alumnae Loan Fund Established 1924 by the Raleigh Chapter of the Alumnae Association; to be used for loans to wor thy women students. <br> Winston-Salem District of North Carolina <br> Conference Loan Fund

1,286.88

Established 1923 by the Winston-Salem District of the Western North Carolina Conference of the Methodist Church; to be used for loans to students preparing for the ministry from the Winston-Salem District.

2,089.82
Mary Poage Wooten Loan Fund
Established 1922 by Reverend John C. Wooten '98, in memory of his wife, Mary Poage Wooten; to be used for loans to worthy students.

## SCHEDULE E-EXPENDABLE FUNDS



## Schedule E (Continued)-Expendable Funds



## Schedule E (Continued)-Expendable Funds

| Particulars | $\begin{gathered} \text { Balance } \\ \text { June } 30,19 \not 88 \end{gathered}$ | Increase | Decrease | $\begin{gathered} \text { Balance } \\ \text { June } 30,19.9 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Studies of Mild or Early Deficiency States... | 934.50 | 3,000.00 | 3,163.43 | 781.07 |
| Studies on Sprue. | 3,871.03 | 800.00 | 2,083.00 | 2,588.03 |
| Mathematics Mural Fund. | 600.00 |  |  | 600.00 |
| Charles B. Mayer Fellowship. | 196.67 | ........ |  | 196.67 |
| Medical Illustration Fund. | 1,737.62 |  | \$03.32 | 934.30 |
| Medical Research Fund. | 4,264.08 | 903.00 |  | 5,167.08 |
| National Institute of Health: |  |  |  |  |
| Amino Acid Research. | 2.16 |  | 2.16 |  |
| Enzyme Research. | 903.61 | 729.55 | 1,543.16 | 90.00 |
| Fungus Research. | 2,647.50 |  | 2,647.50 |  |
| Penicillin Research. |  | 32.89 | 32.89 |  |
| Research of Dr. Wharton | 1,083.29 |  | 1,083.29 |  |
| Syphilitic Research. | 3,508.03 |  | 3,508.03 |  |
| National Foundation for Infantile Paralysis | 10,783.50 | 15,552.90 | 14,545.69 | 12,091.01 |
| National Foundation for Infantile Paralysis: |  |  |  |  |
| Physical Therapy Fund. |  | 3,725.00 | 1,500.00 | 1,925.00 |
| National Research Council Metabolism Fund. | 321.41 | ........ | 321.41 |  |
| National Tuberculosis Association Metabolism |  |  |  |  |
| Fund. | . 02 | 3,249.98 | 3,000.00 | 250.00 |
| Naval Research Laboratory: |  |  |  |  |
| Fluorine Research.. |  | 16,738.31 | 16,738.31 |  |
| Battery Research |  | 12,379.53 | 12,379.53 |  |
| Helium Research. |  | 5,530.50 | 5,530.50 |  |
| Nutrition Foundation: |  |  |  |  |
| Biotin Therapy Fund. | 101.56 |  | 101.56 |  |
| Nicotinic Acid Research | 2,340.30 | ......... | 2,300.00 | 40.30 |
| Dr. Perlzweig Research. | 234.56 | 1,500.00 | 1,117.47 | 617.09 |
| Parathyroid Research | 1,202.85 |  | 1,202.85 |  |
| Obstetrics and Gynecology Bacteriologic |  |  |  |  |
| Research Fund | 625.00 | 1,500.00 |  | 2,125.00 |
| Office of Naval Research: |  |  |  |  |
| Atomic Fission Research. | ........ | 25,823.94 | 25,823.94 |  |
| Condensation Research |  | 10,717.77 | 10,717.77 |  |
| Cosmic Ray Research |  | 8,942.14 | 8,942.14 |  |
| Office of Research \& Invention: |  |  |  |  |
| Molecular Research |  | 18,651.51 | 18,651.51 |  |
| Psychology Research Fund. |  | 3,600.00 | 1,500.00 | 1,500.00 |
| Purchase of German Law Books Fund. | 307.25 | . . . . . . | 295.54 | 11.71 |
| Recreational Reading Collection Fund. | 4.23 |  |  | 4.23 |
| Research Corporation: |  |  |  |  |
| Fatty Acid Metabolism Research. |  | 2,500.00 | 1,092.07 | 1,407.93 |
| Molecular Research. | 1,102.85 | 2,500.00 | 1,445.99 | 2,156.86 |
| Nicotinic Acid Research. |  | 1,800.00 | 125.00 | 1,675.00 |
| Research Publication Fund. | 6,526.16 | 121.72 | 525.00 | 6,122.s8 |
| Rockefeller Foundation Grants: |  |  |  |  |
| Brucellosis Research. | 1,331.67 | .... | 1,331.67 | ......... |
| Latin-American Studies. | 1,600.83 | 4,156.30 | ... | 5,757.13 |
| Medical Students. | 200.01 |  | 200.01 |  |
| Study of Monroe Doctrine. | 400.00 | .... | 400.00 |  |
| Postgraduate Fund. | 1,000.02 | ........ | 1,000.02 |  |
| Research in Neurology. | 4,233.36 | .... | 1,050.83 | 3,152.53 |
| Research in Physical Chemistry of Proteins... | 1,498.08 | 5,000.00 | 5,399.59 | 1,098.49 |
| Research - Dr. von Beckerath. | 500.00 | ....... | 500.00 | ..... |
| Scholarly Lectures Fund. | 60.00 | ......... | ........ | 60.00 |
| Searle Synthetic Drugs Research Fund. | 2,063.90 | 4,000.00 | 4,941.95 | 1,121.95 |
| Sharpe \& Dohme Retintin Fund.. | 1,499.62 |  | ........ | 1,499.62 |
| Smith, Kline \& French: |  |  |  |  |
| Grant to Dr. Callaway...................... | ........ | 2,500.00 | 1,490.71 | 1,009.29 |

## Schedule E (Continued)-Expendable Funds



SCHEDULE F-GIFTS AND GRANTS FOR RESEARCH
Individuals
Bacteriology Research Fund:
Dr. Walter Kempner
3,600.00
Dorothy Beard Research Fund 270.86

Department of Surgery Fund:

Department of Surgery
37,289.74
Duke Hospital
B. E. Geer

Eye Department Research Fund:
Dr. W. B. Anderson
Anna H. Hanes Research Fund: Medical P. D. C. 1,000.00
50.00

38,339.74
F. M. Hanes Bequest to

Department of Medicine 25,958.18
F. M. Hanes Bequest to

Duke Medical School
Horneman Research Fund: John H. Scatterty
Hematology Research Fund: Converse College Students Valentine Meat Juice Co.

Wm. McDougall Research Fund:
Mrs. Florence S. Anspacher
2,400.00
Roger W. Babson
100.00

Mrs. Frances P. Bolton
7,500.00
Dr. Lina Fenimore Cooper John L. Davenport

1,000.00
100.00
500.00

Mathew F. McMullen
H. L. Marzell
O. K. Merritt
$1,000.00$
1,000.00
Charles E. Ozanne
Julia Eleanor Sloan
5,000.00
100.00

Mrs. Dorothy Wenberg
Whiting Williams
100.00
10.00
$18,810.00$
Medical Research Fund:
E. C. Marshall
500.00

Obstetrics and Gynecology
Bacteriological Research Fund:
Department of Obstetrics and Gynecology
110.54
225.00
335.54

Psychology Research Fund:
Dr. Walter Kempner
Special Endocrine Fund:
Department of Obstetrics and Gynecology

1,500.00
Surgical P. D. C.
1,218.71

2,718.71
1,500.00
3,600.00
,

Surgery Clinical Research Fund:
W. J. Carter 250.00
B. R. Coleman $\quad 100.00$
Z. E. Green
28.00

Eugene J. Linberg 750.00
R. L. Lindsay 50.00

## Schedule F (Continued)-Gifts and Grants for Research

| W. C. Mebane | 10.00 |
| :--- | ---: |
| Medical P. D. C. | 11.20 |
| E. R. Squibb \& Son | $1,000.00$ |
| Department of Surgery | 116.09 |
| Surgical P. D. C. | 437.58 |
| George R. Wallace | $1,000.00$ |
| Others | 9.00 |


| Surgical Research Fund : |  |  |
| :--- | ---: | ---: |
| Barrus Construction Co. | 250.00 |  |
| Surgical P. D. C. | $6,258.05$ | $6,508.05$ |

William Senhauser Memorial Fund:
Margaret E. Raymond

## Industry

| American Cyanamid Co. | $10,000.00$ |
| :--- | ---: |
| Anonymous | $10,000.00$ |
| Ayerst, McKenna \& Harrison | $2,250.00$ |
| Ciba Pharmaceutical Products | $2,500.00$ |
| Eli Lilly \& Co. | $12,500.00$ |
| G. D. Searle \& Co. | $4,000.00$ |
| Smith, Kline \& French | 600.00 |
| Southeastern Aromatic Tobacco Co. | 6000 |

Foundations

American Cancer Society $\quad 5,350.00$
American Foundation for High Blood Pressure
American Foundation for Tropical Medicine
Carnegie Foundation for Advancement of Teaching
General Education Board
5,000.00
1,450.00

Gottesman Foundation
7,567.37

Life Insurance Medical Research Fund
9,884.04 700.00

John and Mary R. Markle Foundation
National Foundation for Infantile Paralysis
National Tuberculosis Association
Nutrition Foundation
Research Corporation
Rockefeller Foundation
West Virginia Experimental Forest
29,925.00
5,796.95
19,577.90
3,249.98
1,412.44
6,800.00
7,224.62
300.00
\$104,238.30
Government
United States Army-Contracts
85,348.66
United States Nayy-Contracts
98,700.34
United States Public Health Service Grants

164,166.06
\$348,215.06
\$688,967.99

## SCHEDULE G-GIFTS AND GRANTS FOR THE LIBRARIES

## Catalogue for Trent Collections

Friends of Duke University Library :
Nelson M. Blake 5.00

Victor D. Borst 5.00

John S. Bradway 5.00

Mrs. W. A. Brownell 5.00

Board of Ministerial Training 100.00
Board of Ministerial Training 100.005.005.00
\$ 2,000.00

## Schedule G (Continued)-Gifts and Grants for the Libraries

| Mr. and Mrs. Waverly T. Canada | 10.00 |  |  |
| :---: | :---: | :---: | :---: |
| Mrs. James A. Caton | 40.00 |  |  |
| Kenneth W. Clark | 5.00 |  |  |
| Harry L. Dalton | 200.00 |  |  |
| Mr. and Mrs. F. T. deVyver | 10.00 |  |  |
| Miss Eva I. Gatling | 5.00 |  |  |
| Dr. and Mrs. Paul Gross | 10.00 |  |  |
| Mr. and Mrs. W. B. Hamilton | 10.00 |  |  |
| Miss Jo Kennedy | 5.00 |  |  |
| W. T. Laprade | 10.00 |  |  |
| Edgar E. McCanlen | 5.00 |  |  |
| Douglas McKay | 5.00 |  |  |
| Alan K. Manchester | 10.00 |  |  |
| Ida Dell Neuhoff | 5.00 |  |  |
| Mrs. Frances Paton | 50.00 |  |  |
| John C. Payne | 5.00 |  |  |
| Mr. and Mrs. Theodore Ropp | 10.00 |  |  |
| Thomas Simkins | 10.00 |  |  |
| Mr. and Mrs. W. F. Stinespring | 5.00 |  |  |
| Mrs. Mary C. Stone | 10.00 |  |  |
| Frederick A. Wolf | 10.00 | 550.00 |  |
| ibrary Fees |  | 40,426.25 |  |
| Lost Book Fund |  | 962.34 |  |
| esearch Publication Fund |  | 121.72 |  |
| pecial Gifts for Library Books : |  |  |  |
| R. E. Bamton | 9.00 |  |  |
| E. G. Roberts | 14.69 |  |  |
| Estelle F. Spears | 100.00 |  |  |
| Lenora H. Sweeney | 15.00 | 138.69 | 44,199.00 |

## SCHEDULE H-GIFTS FOR CURRENT EXPENSES

North Carolina Conference of the Methodist

Church
Western North Carolina Conference of the Methodist Church
Committee of the South
Methodist Committee on World Service
Kearns Fellowship
Angier B. Duke Fellowship
College Emergency Relief Fund
John Sprunt Hill
Dr. Deryl Hart
B. E. Jordan

General Education Board
\$ 5,000.00
7,500.00
1,670.00
3,000.00
2,000.00
1,600.00
2,988.34
300.00

2,000.00
1,000.00
$500.00 \quad \$ 27.558 .34$

SCHEDULE I-GIFTS FOR FELLOWSHIPS AND SCHOLARSHIPS

Methodist College Advance
Fred S. Aldridge Scholarship Fund: Various Durham County Alumni
Divinity School Miscellaneous
Scholarships:
Crusade for Christ
Edenton St. Methodist Church
World Service Fund
J. C. Cowan, Jr.
400.00
\$ 50,814.36

Schedule I (Continued)-Gifts for Fellowships and Scholarships
Angier B. Duke Memorial, Inc.
30,675.00
Duke University Sundry Scholarships:
Sweetbriar Shops, Inc. 62.00
Delta Theta Phi Foundation, Inc. 50.00
Wm. Leggett Memorial
Scholarship $\quad 1,000.00$
Altrusa Club 100.00
$\begin{array}{ll}\text { Western North Carolina Con- } \\ \text { ference Women's Service } & 200.00\end{array}$
Tithers, Inc. 100.00
West Pennsylvania Power Co. 500.00
National Foundation for
Infantile Paralysis
$1,711.00$
Ruth Y. Bird Memorial
Scholarship
700.00
J. B. Cornelius Foundation 275.00

Ridgewood High School Assn. 125.00
Howard Easley 350.00
Crozier Theological Seminary 300.00
Dad's Club of Valley Stream 250.00
Durham County Alumnae Assn. 100.00
Methodist Board of Education $\quad 3,000.00$
Bozart Committee
100.00

Mary Alyse Smith Scholarship 350.00
Pepsi-Cola Company $2,000.00$
Wilhelmina C. Siegert Bequest 200.00
11,473.00
Durham County Alumni
717.30

General University Scholarships:
Sundry Contributors
$10,139.50$
Graduate Scholarship in Philosophy :
Allan H. Gilbert 270.00
Hunter Jones Scholarship 435.50
D. M. Litaker Scholarship:

Charles H. Litaker 450.88
Thomas R. Mullen, Jr. Scholarship 200.00
T. V. Rochelle Scholarship 80.00

Allied Chemical \& Dye Corporation $\quad 1,175.00$
Anatomy Department Postgraduate Fund:
Department of Obstetrics and Gynecology 240.00
Carbide \& Carbon Chemical Corporation 2,050.00
E. I. DuPont de Nemours \& Company $\quad 2,800.00$

Eli Lilly and Company
1,000.00
James A. Gray Foundation
4,197.59
W. K. Kellogg Foundation 611.00

John and Mary R. Markle Foundation $15,000.00$
Southeastern Jurisdictional Conference
2,573.54
The Texas Company
1,500.00
Union Bag \& Paper Corporation $\quad 2,500.00$
$\$ 142,034.03$

## SCHEDULE J-GIFTS FOR MISCELLANEOUS PURPOSES

Lutheran Activities Fund:
St. Paul's Lutheran Church \$ 270.02
United Evangelical Lutheran Synod 700.00
National Lutheran Council 750.01
\$ 1,720.03

## Schedule J (Continued)—Gifts for Miscellaneous Purposes

| Methodist Activities Fund: <br> Western North Carolina |  |  |
| :---: | :---: | :---: |
|  |  |  |
| Conference $1,800.00$ |  |  |
| North Carolina Conference $\quad 1,200.00$ | 3,000.00 |  |
| J. B. Duke Church Extension Fund | 49.08 |  |
| Westminster Fellowship: |  |  |
| First Presbyterian Church $\quad 300.00$ |  |  |
| Committee on Religious Education 1,800.00 |  |  |
| Board of Education-Presbyterian Church $\quad 250.00$ |  |  |
| John Sprunt Hill 100.00 | 2,450.00 |  |
| Divinity School Fund: |  |  |
| General Commission on World |  |  |
| Service and Finance of the |  |  |
| Methodist Church 11,652.18 |  |  |
| George M. Ivey 100.00 | 11,752.18 |  |
| Duke Hospital Social Service Fund |  |  |
| Independent Aid, Inc. | 30,000.00 |  |
| Duke Memorial Etching Fund | 288.00 |  |
| Graduate School Thesis Fund | 1,500.00 |  |
| Harris Fund for Nursing Moribund Patients | 23,356.36 |  |
| Training Nurses for National Defense | 3,520.94 |  |
| General Alumni Fund | 23.00 |  |
| Frank C. Brown Folklore Collection | 180.16 | \$ 77,839.75 |

## SCHEDULEK-GIFTS FOR PLANT AND EQUIPMENT

Duke Endowment Building Fund:
The Duke Endowment $\$ 845,951.05$
Duke University
Dorothy Beard Research Fund
14,223.84
878.06
\$861,052.95
Duke University Building Fund:
Department of Surgery $\quad 50,000.00$
Anna H. Hanes Research Fund
$50,000.00$
$100,000.00$
Duke University Development Fund:
Doris Duke
25,000.00
General Library Addition:
Mary Duke Biddle
183,510.42
F. M. Hanes Garden Memorial Fund :
C. H. Cobb 50.00

Duke Nurses Alumnae $\quad 10.00$
Duke Pathological Service 10.00
Herbert J. Fox 100.00
James B. Hendrix 75.00
Duncan C. Hetherington 5.00
Oscar Hansen-Prüss $\quad 150.00$
Walter Kempner 150.00
MacDonald Dick 90.00
Donald S. Martin 15.00
Guy L. Odom 25.00

Edward S. Orgain

## Schedule K (Continued)-Gifts for Plant and Equipment

| E. E. Menefee, Jr. | 100.00 |  |
| :--- | ---: | :--- |
| Talmage Peele | 10.00 |  |
| William A. Perlzweig | 10.00 |  |
| Mary H. Poston | 15.00 |  |
| Wayne Rundles | 10.00 |  |
| Julian H. Ruffin | 500.00 |  |
| D. T. Smith | $\underline{100.00}$ | $1,200.00$ |
| Eugene Stead, Jr. |  |  |

Marine Laboratory Research Building Fund:
General Education Board $5,000.00$
Medical School and Hospital Building Fund:
Private Diagnostic Clinics
$\underline{117,232.98} \xlongequal{\$ 1.292 .996 .35}$

## GIFTS AND BEQUESTS

Duke University derives its principal support from endowment funds and from miscellaneous gifts and grants. Permanently invested capital funds enable the University to offer to students academic and professional training at a fraction of its actual cost. The effectiveness of the University is determined to large extent by its financial resources.

Gifts and bequests devoted to the improvement of the work of the University will be received and administered by the Trustees in accordance with the desires of the donor.

Gifts. Any kind of property, real or personal, may be the subject of a gift and only such form as is required to pass title is necessary. If the gift consists of real property, the title will be passed by deed; if it consists of cash or unregistered bonds, the gift is consummated by delivery of the property; or if stocks, by delivery of properly endorsed stock certificates. Unless restricted, the use of gifts is at the discretion of the Board of Trustees. Usually the proceeds, conservatively invested, are added to the permanent endowment of the University. The donor may, however, restrict the use of any gift and designate definitely the object for which it shall be used. In such cases, the transfer of property would be accomplished by a letter or other document describing in detail the objects for which the proceeds of the gift are to be used and when accepted by the University the terms or conditions set out therein become binding upon it.

Bequests. Bequests may be made to the University by an appropriate clause inserted in a will or by codicil to a will already drawn. The forms shown on the following page will serve as appropriate clauses for wills or codicils.

## FORMS FOR BEQUESTS

## General

I give, devise and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, and its successors forever the sum of............................................................ dollars (or otherwise describe the gift) for the general purposes and uses of the University at the discretion of the Board of Trustees.

## Specific

I give, devise and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, or its successors forever, the sum of. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . dollars (or otherwise describe the gift) and direct that the income therefrom shall be used for the following purposes, viz. (here describe in detail the use desired).

## Codicil

Having herebefore made my last Will and Testament dated
.......................................... and being of sound mind, I hereby make, publish, and declare the following codicil thereto; (here insert clause in same form as if it had been included in body of Will). Except as hereinbefore changed, I hereby ratify, confirm and republish my said last Will and Testament.
(It is strongly recommended that a competent lawyer be employed to prepare the will and to supervise its execution in order to comply with all the requirements of the law of the state in which the maker of the will resides. It is also wise to give the University considerable latitude in the use of any fund so that a change of circumstances may not impair the usefulness of the gift. The Treasurer of the University will be glad upon request to review the phrasing of any proposed form of bequest.)

## BULLETIN O F

## DUKE UNIVERSITY

## The School of Forestry

ANNOUNCEMENTS FOR 1950-51

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N. C.
For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The:Secretary, Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.
For Bulletin of The School of Law, apply to The Dean of the School of Law, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.
For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

# BULLETIN 

OF

# Duke University 

## THE SCHOOL OF FORESTRY



ANNOUNCEMENTS FOR 1950-51

DURHAM, NORTH CAROLINA

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## SCHOOL OF FORESTRY CALENDAR

1950
June 12 Monday-Registration of students for summer work in forestry.
June 13 Tuesday-Field work in Plane Surveying (C.E. S110) begins.
July 11 Tuesday-Field work in Forest Surveying (For. S150) begins.
Aug. 14 Monday-Field work in Forest Mensuration (For. S151) begins.
Sept. 19 Tuesday-Registration of students in the School of Forestry.
Sept. 20 Wednesday-Registration of students in the School of Forestry.
Sept. 21 Thursday-Instruction begins in the School of Forestry.
Nov. 23 Thursday-Thanksgiving Day: a holiday.
Dec. 11 Monday-Founders Day.
Dec. 20 Wednesday, 5:00 P.M.-Christmas recess begins.

## 1951

Jan. 4 Thursday, 8:00 A.m.-Instruction is resumed.
Jan. 17 Wednesday-School of Forestry mid-year examinations begin.
Jan. 27 Saturday-School of Forestry mid-year examinations end.
Jan. 29 Monday-Registration of students in the School of Forestry.
Jan. 31 Wednesday-Second semester begins.
March 24 Saturday, 12:30 p.m.-Spring vacation begins. School of Forestry Coastal Plain field work begins.
April 2 Monday, 8:00 A.m.-Instruction is resumed.
April 9 Monday, 8:00 A.m.-Coastal Plain field work ends.
April 15 Last day for submitting Doctor of Forestry theses.
May 15 Last day for submitting Master of Forestry theses.
May 21 Monday-School of Forestry final examinations begin.
May 31 Thursday-School of Forestry final examinations end.
June 2 Saturday-Commencement opens.
June 3 Sunday-Commencement sermon.
June $\quad 4$ Monday-Commencement address and graduating exercises.

## OFFICERS OF ADMINISTRATION

| Edens, Arth Ur Hollis, A.B., A.M., Ph.D., LL.D. | West Campus |
| :--- | ---: |
| President of the University |  |
| Flowers, Robert Lee, A.M., LL.D. |  |
| Chancellor of the University |  | West Campus

## FACULTY OF THE SCHOOL OF FORESTRY

Beal, James Allen, B.S., M.S., Ph.D.
Profcssor of Forest Entomology
2232 Cranford Road
*Colle, Theobore Stanley, B.S.F., M.F., Ph.D.
Professor of Forest Soils Laurel Ridge Farm, Hillsboro Road
Harrar, Ellwood Scott, B.S., M.S., Ph.D.
Professor of Wood Technology 2228 Cranford Road
Korstian, Clarence Ferdinand, B.S.F., M.F., M.A., Ph.D.
Professor of Silviculture
4 Sylvan Road
Kramer, Paul Jackson, A.B., M.Sc., Ph.D.
Profcssor of Botany'
2251 Cranford Road
Runolph, Victor John, B.S., M.F.
Assistant Professor of Forest Managcment
1104 Ninth Street
Schumacher, Francis Xavier, B.S.
Professor of Forcstry
6 Sylvan Road
** Thomson, Roy Bertrand, B.S., M.F., Ph.D.
Profcssor of Forest Economics
2243 Cranford Road
Wackerman, Albert Edward, B.S., M.F. Professor of Forest Utilization

Dover Road, Hope Valley
Wolf, Frederick Adolphus, A.B., A.M., Ph.D. Professor of Botany

924 Urban Avenue

## DUKE FOREST STAFF

Korstian, Clarence Ferdinand, B.S.F., M.F., M.A., Ph.D. Director

4 Sylvan Road
Runolph, Victor John, B.S., M.F.
Assistant Director
1104 Ninth Street
Blackmon, Manly Rankin
Supcrintendent
2321 Erwin Road
*** Labyak, Leo F., B.S.F., M.F.
Forcst Assistant
*** Hallberg, Russell K., B.S.F.
Forest Assistant
206 Woodridge Drive

824 Wilkerson Avenue
***Ray, Philip L., B.S.
Forest Assistant
Camp Butner, N. C.
Maupin, Mrs. Harriet G.
Bookkeeper
1008 N. Gregson Street

[^0]
## DUKE ARBORETUM

Harrar, Ellwood Scott, B.S., M.S., Ph.D. In Charge

2228 Cranford Road ASSISTANTS IN SCHOOL ADMINISTRATION
Labyak, Mrs. Kathryn T.
Recorder and Secretary to the Dean
206 Woodridge Drive
Rfece, Mrs. Joyce H. Secretary

1004 Shepherd Street
Wright, Mrs. Bernardine G. Secretary
Hicks, Mrs. Julie C. Statistical Clerk

Camp Butner, N. C.
815 Green Street

# FORESTRY IN DUKE UNIVERSITY 

## GENERAL STATEMENT

Duke University, located at Durham, North Carolina, comprises Trinity College, the Woman's College, the College of Engineering, the Graduate School of Arts and Sciences, the Divinity School, and the professional schools of Forestry, Law, Medicine, and Nursing. Nearly every state of the Union and several nations are represented in the student body of more than five thousand, not including the enrollment in the Summer Session.

The University goes back in its origin to 1838, when Union Institute was founded in Randolph County by the Methodists and Friends. In 1851 the institution became Normal Coliege, one of the first schools in America for the training of teachers. In 1859 the name was changed to Trinity College and so continued until 1924, when the College became a part of Duke University.

By virtue of an indenture of trust, executed December 11, 1924, by James Buchanan Duke, a great benefaction was placed at the disposal of humanity by providing for hospitalization, church work in rural communities, and education. The principal feature of the educational provision was the creation of Duke University.

The University occupies two campuses. The Woman's College campus, with its 108 acres, was formerly the campus of Trinity College. About a mile to the west are the new units of the University. The new campus, totaling 467 acres, also known as the West Campus, was first occupied in September, 1930.

Forestry in Duke University began early in 1931, when, through placing the Duke Forest under intensive management for forestry purposes, a substantial beginning was made in laying the foundation for educational work and research in forestry.

An academic-forestry curriculum, designed for students intent upon pursuing the study of forestry, particularly as a profession after graduation, was organized in Trinity College of Duke University in 1932 (see Announcement on Undergraduate Instruction in Duke University). This four-year course of study provides only for instruction in fundamental and auxiliary subjects basic to a proper understanding of the highly specialized work in technical forestry. Duke University offers no professional degree in teclinical forestry available to undergraduates.

Training in technical forestry leading to the professional degrees, Master of Forestry and Doctor of Forestry, is offered in the School of Forestry, and is open to all graduates of the academic-forestry curriculum in Trinity College and to graduates of recognized scientific schools or colleges, universities, and professional schools of forestry.

Duke University is also prepared to offer, through the Graduate School of Arts and Sciences, graduate work in the more scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy de-
grees. This work is available to graduates of schools of forestry of recognized standing, and to college or university graduates holding the Bachelor's degree with their major work in appropriate scientific subjects. Undergraduate subjects which the college student, who does not have forestry training but who is contemplating work toward either degree in forestry, should take in preparation for this work may be illustrated as follows: At least two full years in botany, including general morphology or anatomy, the taxonomy, physiology, and ecology of plants; at least one course in zoology or general biology; courses in chemistry, physics, geology, economics, mathematics; and at least two years of French or German.

Several staff members of the Southeastern Forest Experiment Station are engaged in co-operative research projects in the Duke Forest. Specialists from this station and other prominent members of the U. S. Forest Service and representatives of forest and wood-using industries give occasional scheduled lectures at the School.

## EDUCATIONAL FACILITIES

The School of Forestry is located in the Social Science and Biology Buildings on the West Campus. The School is provided with instruments and tools for use in both field and laboratory work in silvics, silviculture, harvesting, and forest mensuration. Modern surveying instruments and accessory equipment are available for work in forest surveying.

Laboratories for work in wood anatomy and properties are provided with microtechnique and photomicrographic instruments, wood-working machinery, and a 50,000 -pound Olsen Universal timber-testing machine, in addition to a glue and plywood laboratory. A modern forest soils laboratory equipped for physical and chemical studies is available. In the field of seasoning and preservation of wood a commercial-sized, singlecompartment dry kiln and a fully equipped experimental pressure treating cylinder are available for instruction and research.

Facilities are also available for advanced work in plant physiology, plant anatomy, plant taxonomy, genetics, plant ecology, plant pathology, and the several branches of zoology.

The School of Forestry Library contains a growing collection of material on forestry and related subjects. It includes important books and periodicals in English and in French, German, and other foreign languages. The Library is well provided with American material, including Federal and State documents and reports. Over 150 periodicals and serials of importance in forestry and related fields are received by subscription or exchange.

Greenhouses, connected to the Biology Building through a soil-storage and work room, provide adequate space for experimental work.

A nursery has been established by the University for joint use of the Sarah P. Duke Floral Garden, the Botany Department, and the School of Forestry. The forestry section of this nursery is used mainly for the
growing of planting stock for the Arboretum and trees needed for research or other special purposes.

West Virginia Pulp and Paper Company has made available to Duke University a field headquarters for work in forests of the South Atlantic Coastal Plain located 18 miles northwest of Summerville, South Carolina. This company has extensive forest holdings under close supervision of a staff of technical foresters in South Carolina and permits access to its lands for instruction and research in forestry and allied fields. This headquarters camp with modern facilities for as many as 45 men is used as a base primarily for utilization work each spring and for special work in silviculture. The quarters may be available at other times for students and faculty members of the Duke School of Forestry working on special problems or doing advanced work in any of the fields of forestry concerned with coastal plain problems. The establishment of this headquarters camp in the coastal plain region makes it possible for the School of Forestry to provide instruction and conduct research in this important forest area in which many privately owned forests as well as public forests are intensively managed for the production and utilization of a wide range of forest products. The Southern Railway Demonstration Forest is within easy reach of this center and will also be available for work, particularly with longleaf pine.

The School sponsors occasional lectures on forestry and conservation by speakers of national reputation.

An active Forestry Club is maintained as a student organization to bring the members of the School and students in the undergraduate academic-forestry curriculum into closer contact and to afford opportunities for extracurricular activities not otherwise available.

## FOREST INDUSTRY TRAINING PLAN

The School of Forestry and the Southern Pine Association have initiated a joint plan for training graduate foresters in the Southern lumber industry. Graduates of the School will be placed, with the assistance of the Association Forester, with companies desiring to participate, for a period of approximately one year during which time the men will work in a variety of capacities under competent supervision.

The plan is designed better to equip young foresters for careers in forest industries and to make them more useful employees capable of developing executive capacities. The gap between academic education and practical training will be bridged under the operation of the plan for the mutual benefit of the men and their prospective employers.

Detailed information about this program can be obtained from the School of Forestry or from the Southern Pine Association, New Orleans, Louisiana:

## THE DUKE FOREST

The Duke Forest, located in Durham and Orange counties, North Carolina, consists of five main units: namely, the Durham, New Hope Creek, Hillsboro, Eno, and Blackwood divisions. Early in the develop-
ment of Duke University it was recognized that the possession of such an area offered an unusual opportunity for the development of educational work in forestry.

Situated on the lower Piedmont platean at elevations ranging from 280 to 650 feet, and composed of second-growth shortleaf and loblolly pines, oak, gum, lickory, maple, yellow poplar, ash, and other hardwoods, the Forest is representative of the various types of timber growth found throughout the region. Over a hundred different species of trees are found within or near the Forest. The land is rolling and there is relatively little rock outcrop, swamp, or other land of low productivity for timber growing. The total area of the Forest proper, exclusive of the University campus, is approximately eight thousand acres.

In developing the Duke Forest the following objectives are being emphasized:

1. Demonstration of the various methods of timber growing, silvicultural treatment, and forest management applicable to the region.
2. Development as an experimental forest for research in the problems of timber growing and in the sciences basic thereto. In spite of the present timber situation and the accompanying economic ills, the technical and scientific knowledge required to handle forest crops efficiently on a permanent basis is still largely lacking. The Duke Forest affords a place where studies may be carried on to augment this knowledge for the large region of which the local forest and soil conditions are representative.
3. To serve as an outdoor laboratory where field work can be carried on by forestry students under the guidance of the Forestry Faculty. One of the most difficult problems in forestry education is to bring the students into contact with the realities of professional activities. With all operations in the Forest, both routine and research, recorded annually, it is possible for a qualified man to get in a short time a degree of practical knowledge or technical expertness which only an organized forest can provide.

The Duke Forest is particularly well located to serve as a field laboratory, since most of it is adjacent and easily accessible to the University campus. In fact, the Durham division practically surrounds the West Campus, which was laid out in one corner of the Forest. A paved State highway runs lengthwise through the Durham division, and several good roads cross the Forest. About fifteen miles of improved woods roads make all parts of the Forest readily accessible. A five-minute walk will take one well into the Forest, and any part of the Durham or New Hope Creek divisions can be reached by automobile in from ten to twenty minutes. At few other places in America can be found provision for forestry training and research which includes the necessary forest literally at the door of a large university with its instructional, laboratory, and library facilities.

Approximately 1,400 acres of the Forest was open land, which had been under cultivation prior to the establishment of the Forest. Such of the open land as was not restocking naturally to forest trees was planted.

Arbitrarily by mixing species and varying the spacing between the trees in the plantations, the foundation was laid for future research into many perplexing problems, such as species relationships and requirements, the most desirable spacing and species to use in this region, and the survival and relative rates of growth of the different species of trees. To date approximately 1,100 acres of such plantations have been established. Pulpwood thinnings on a commercial basis are now being made in a number of the older pine plantations.

A large number of permanent sample plots, ranging in size from one-tenth acre to over one acre, have been laid out in the Forest to study various problems. The plots are distributed through all the forest types, and range in purpose from studies of the effects of various silvicultural practices to studies of rates of growth and yields of the different timber types. Accurate records are kept on all this work, which will provide excellent material for student research. In the future many of these plots can also be used to demonstrate desirable forestry practices.

The development of the Forest as a demonstration of practical forest management is well advanced. Forest type and timber stand maps are available for each of four divisions except for recently acquired areas. A detailed soils map for the entire area is being prepared. Except for very recent acquisitions, each division has been subdivided into permanent compartments, and plans for the silvicultural treatment of each stand and working group have been formulated. The second 10 -year inventory of the Forest resources has been completed and the results of management practices during the first decade are being assembled and will soon be available.

Cutting operations within the limits of annual growth are being carried on, and, as markets for definite products are developed or expanded, such operations will be increased. To date, approximately 1,000 acres in the pine types have been thinned. These thinnings serve the dual purpose of contributing to the operation of the Forest as a going business and of demonstrating sound forestry practices. An efficient fire protection organization has been developed in co-operation with the State and Federal governments, and forest fire losses are being held to a minimum. In managing the Forest, public recreation activities are recognized. Several recreation areas have been established, and over fifteen thousand picnickers, hikers, and horseback riders use the area annually. The Durham and New Hope Creek divisions of the Forest, together with several hundred acres of neighboring privately owned land, are incorporated in an Auxiliary State Game Refuge to give the necessary protection which will ultimately result in an increased amount of game in the surrounding territory. Records are being maintained of all activities in the Forest, and these records will become increasingly useful as they are improved as a result of further experience and research. With the diversification and expansion of activities now going on, students have an opportunity to study an operating forest in all its phases and to obtain a grasp of the proper balance between theory and practice.

The Forest is admirably located for research in forest soils. An un-
usually large number of different soil conditions occur in the Forest because of the diversity of parent rock, topography, and past land culture. Major soil differences are due to the nature of the parent material which includes the basic rock of the Carolina Slate formation, granites, Triassic sedimentary rock, and many types of basic intrusives.

An exceptionally good opportunity exists for the conduct of forest research by graduate students due to the wide range in forest types, ages, and soil conditions within the Forest and its proximity to the laboratories, greenhouses, and other scientific equipment and library facilities of the University. Research is being conducted on special problems, particularly in the fields of silvics, forest soils, forest-tree physiology, forest entomology, forest pathology, silviculture, forest management, and wood technology. The Forest is used not only for research in forestry but also for research in forest biology by members of allied departments.

## THE ARBORETUM

Of outstanding value in the teaching of both forestry and botany in the future is the provision for the development of an arboretum. In their annual meeting on June 4, 1934, the Board of Trustees of Duke University, upon the recommendation of their Forestry Committee, voted to set aside permanently an area of over three hundred acres in the Forest to be used for arboretum purposes. The area lies adjacent to the main University campus immediately across the road from the Chapel.

Through the generosity of the late W. W. Flowers, of New York, a member of the Class of 1894 and a Trustee of the University, it has been possible to develop preliminary plans and to make a number of plantings. This is naturally a long-time project, and many years will elapse before the Arboretum will be most useful and most attractive. The University Trustees' Committee on Forestry in its report to the Board refers to the Arboretum as follows:
"The Arboretum should serve as a station for the study of trees and woody plants as individuals and in small groups in their scientific relations, economic properties, and cultural characteristics, requirements, and possibilities. It should render an economic service by acting as a research laboratory where trees and shrubs can be studied from the viewpoint of a fuller utilization of their commercial possibilities. It should render a cultural service by serving as a center where foresters, landscape architects, nurserymen, gardeners, and the general public may increase their knowledge of indigenous trees and shrubs and where they may become acquainted with the foreign species that can be grown here. Within the University the Arboretum will supply living specimens and material for several branches of botany and forestry."

The development of the Arboretum will proceed along these lines as rapidly as available funds and planting stock will permit.

## FELLOWSHIPS, SCHOLARSHIPS, AND GRADUATE ASSISTANTSHIPS IN FORESTRY

A number of fellowships, scholarships, and research assistantships are available to men who offer promise of becoming leaders in the forestry profession. These will be awarded for high character and marked scholastic ability as judged by education, experience, and personal references.

Holders of the awards will pay tuition and such additional fees as are regularly required.

The awards are of three classes with stipends and special conditions as follows:
(1) Fellowships of $\$ 600$ to $\$ 1,000$ each. Each recipient must have previously completed work equivalent to that required at Duke University for a Master's degree with major in forestry or in a discipline basic to forestry. He will devote his time to an approved program of study and research in any of the branches of forestry. He is expected to become a candidate for the degree of Doctor of Forestry or Doctor of Philosophy.
(2) Scholarships of $\$ 250$ to $\$ 700$ each. Each recipient will normally devote his time to an approved program of study leading to the degree of Master of Forestry or Master of Arts with a major in forestry.

Holders of fellowships and scholarships will be expected to do a limited amount of assisting.
(3) Graduate assistantships of $\$ 1,000$ each. Each recipient will devote half-time to research or other work of the School of Forestry. He will be permitted to enroll for not more than 20 semester hours in a school year on a program of study, or study and research, leading to the degree of Master of Forestry, Master of Arts, Doctor of Forestry, or Doctor of Philosophy.

Two Union Bag \& Paper Corporation forestry fellowships of $\$ 800$ each are available for graduate study leading to the degrees of Master of Forestry or Doctor of Forestry with major work in the fields of harvesting and marketing of forest products, silviculture, or forest economics, or combination majors in two of the above fields, for men interested in private forestry careers. Preference will be given to forestry graduates of southern institutions for one of the awards. College graduates not having degrees in forestry must have completed at least one year of forestry in a recognized school of forestry to be eligible for these fellowships. The Woodlands Division of the Union Bag \& Paper Corporation with headquarters at Savannah, Georgia, has agreed to employ the recipients of the awards during the summer preceding their enrollment in the Duke School of Forestry to provide opportunity for contact with private forestry activities and to assemble material for their theses, should they desire to avail themselves of this opportunity. A fund is available each year for expenses incurred in the collection and analysis of thesis data and for other expenses in connection with the fellowships. This fund is disbursed by the School of Forestry only as needed for essential expenses.

The following arrangements are common to all fellowships, scholarships and research assistantships in forestry:
(1) Each applicant must have received a Bachelor's degree from an acceptable professional school of forestry or must be a graduate of a recognized college or university. If an applicant is not a graduate of a school of forestry, he must have had major work in botany or soil science and in the allied basic sciences. Each applicant must show reasonably high scholarship. Preference will be given to men who have already obtained technical or professional training in forestry.
(2) It is highly desirable that each applicant state as specifically as possible the field in which he wishes to study. The definite selection of a major field of work-one that is specific in purpose and involves training both in fundamentals and in technique-is very helpful to the Committee on Awards.
(3) Application blanks for fellowships, scholarships, and research assistantships may be obtained by writing to the Dean of the School of Forestry, Duke University, Durham, North Carolina. When the blank has been filled out by the applicant, it should be returned to the above address, and an official transcript of record showing college or university credits must accompany it or be forwarded promptly. The application and transcript must be filed not later than March 1 for consideration for the following academic year. In case vacancies occur, applications submitted on a later date may be considered.

## REQUIREMENTS FOR ADMISSION TO THE SCHOOL OF FORESTRY

The following general requirements of the School of Forestry apply to candidates for the Master of Forestry degree:

Admission to the School of Forestry presupposes that the applicant is either a graduate of a scientific school. college, or university of high standing. but without professional training in forestry: or that he is a graduate of a professional school of forestry: He will present not less than four years of credit of collegiate grade with at least one and one half times as many quality points as hours. ${ }^{1}$

An applicant with no professional training in forestry will present a certified transcript of his academic record showing that he has had conferred upon him a degree in arts, science, or engineering; and that he has satisfactorily completed undergraduate work in minimum amount as follows:

One year of botany, including the morphology, physiology, and identification of plants.

One year each of English composition and of chemistry.
One course each in physics and in the principles of economics.
Mathematics, through college algebra and trigonometry.
It is urged that an applicant without professional training in forestry present additional credits in the above subjects and in one or more of the following subjects: soils, geology, mineralogy, petrology, climatology,

[^1]surveying, languages (particularly German and French), sociology, political science, philosophy, psychology, and zoology.

An applicant who is a graduate of a professional school of forestry will present a certified transcript of scholastic record showing the award of a degree. Before registering for the first semester of residence, such applicants will be required to select the branch or branches of forestry in which they wish to concentrate the major part of their work and to prepare their proposed programs in conference with the appropriate faculty adviser.

Students must make application for admission in advance of the opening of the school year. Those students entering without acceptable courses in plane surveying, forest surveying, and forest mensuration must take the twelve weeks of work in these subjects in the Summer Session, and are required to submit their applications prior to May 1. Students entering with advanced standing in surveying and forest mensuration should make application before September 1. Application blanks will be sent upon request made to the Dean of the School of Forestry.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF FORESTRY

The degree of Master of Forestry (M.F.) is conferred upon students who have satisfactorily completed two years of study in technical forestry and one term of twelve weeks work in plane surveying, forest surveying, and forest mensuration in the Summer Session. In addition to the Summer Session work a total of not less than sixty semester hours credit is required for the M.F. degree, of which at least fifty shall have been obtained in the School of Forestry. Each student must have obtained at least as many quality points as semester hours of credit, under the qualitypoint system described in footnote 1 of the preceding section, to qualify for the M.F. degree.

Field studies of typical timber-harvesting, manufacturing, and other utilization operations in the South Atlantic Coastal Plain are conducted from the School's field headquarters during a two-week period in the spring semester as part of the work required of students registered in Harvesting and Processing Forest Products (Forestry 212). Other students may be permitted or advised to take this work for which one semester hour of credit may be earned by registering for it in Forestry 212A. A similar period of field work in silviculture, forest management, and other subjects in the Coastal Plain is available to students.

No student may take less than fourteen or more than eighteen hours in any one semester without special permission of the School of Forestry Faculty. The following work will be required of all candidates for the M.F. degree :

## SUMMER SESSION

FIRST YEAR


## SECOND YEAR

Two curricula in forestry are available after the common minimum requirements for both have been met. One is in general forestry; the other in forest products. The required work in each curriculum, in addition to that common to both, is :

## GENERAL FORESTRY CURRICULUM

| First Scmester |  | Second Semester |  |
| :---: | :---: | :---: | :---: |
| Forest Entomology (F. 231) | $\begin{aligned} & \text { s. н. } \\ & \hline \end{aligned}$ | Silviculture (F. 266) | $\begin{aligned} & \text { S.H. } \\ & . .2 \end{aligned}$ |
| Silviculture (F. 265) ...... | 3 | Forest Valuation (F. 278) | 3 |
| Forest Protection (F. 273) | 2 | Management Plans (F. 282) |  |
| Thesis and electives | 7 | Thesis and electives |  |

## FOREST PRODUCTS CURRICULUM

First Scmester
Industrial Engineering
(Eng. 158) $\ldots \ldots \ldots \ldots \ldots \ldots . \ldots$
(F. 213)
Silviculture
(F. 2655$)$

Advanced Forest Utilization (F. 311)3
Thesis and electives ..... 3

Each candidate is required to file in the office of the Dean of the School of Forestry on or before May 15 three copies of a thesis, typewritten and bound in accordance with regulations set forth by the Faculty. The thesis shall be based upon an original study made in the field, laboratory, or library.

Work of equivalent grade done in residence at other institutions may, with the approval of the Faculty, be accepted as credit toward the M.F. degree. A minimum of one year's residence is required at Duke University. Students who have had satisfactory undergraduate training in forestry may, with the approval of the Faculty, elect to devote the major portion of their time to research under the supervision of one or more members of the Faculty and prepare a more comprehensive thesis than is required of students entering the School without previous work in forestry. Students in the School of Forestry may take in allied departments of the University as electives certain courses approved by the Faculty.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF FORESTRY

## THE DEGREE

The degree of Doctor of Forestry (D.F.) is a professional and research degree, involving both advanced study and research. It is based upon evidence of high attainments in a special branch of forestry knowledge or in the broad field of forestry, including the production of a thesis which is the result of original work and which is a distinct contribution to knowledge in the field of forestry.

A student who plans to enter upon a program of work leading to the degree of Doctor of Forestry should consult or enter into correspondence with the Dean of the School of Forestry. He will then be advised as to the possibility of obtaining the necessary instruction and supervision of work in the fields desired.

## RESIDENCE

The normal period of resident graduate study, following satisfaction of the general requirements for admission to the Duke School of Forestry, is a minimum of two academic years after the student has obtained the graduate professional degree of Master of Forestry, or its equivalent. At least one of these two years of graduate study must be spent in actual residence at Duke University. With the approval of the Faculty of the School of Forestry work of equal grade done in residence at another college or university, or at a research station or institute not connected with a college or university, may be accepted toward a Doctor of Forestry degree. Only in connection with the preparation of the thesis will work be accepted that has been done elsewhere than in residence at a college, university, research station, or institute. A student whose indergraduate work is insufficient in amount or unsatisfactory in character may be required to spend additional time in preliminary courses essential as a basis for the graduate work he proposes to undertake.

Students whose research is concerned with the study of trees and forest stands in the Duke Forest during the growing season may find it necessary to be at the University during the summer.

Credit for one year of work done in regular terms of the Summer Session at Duke University may be given with the approval of the School of Forestry Faculty. Graduate work of fragmentary character taken over a long period of years, or work completed many years before the student becomes a candidate for the degree at Duke University, will not be accepted as satisfying the requirements of residence, except in unusual cases.

## APPLICATION FOR CANDIDACY

No student will be admitted as a candidate for the degree of Doctor of Forestry until he has obtained the professional graduate degree of Master of Forestry or its equivalent, either at Duke University or at a professional school of forestry of recognized standing. A student desiring to become a candidate for the Doctor of Forestry degree is ordinarily
required to file with the Dean of the School of Forestry, at the beginning of his graduate work toward this degree, a formal application indicating in which field and under what professor he proposes to carry on research. A committee of the Faculty will then be appointed to supervise the student's work, with the professor in charge of his research as chairman. If and when the committee finds that the preliminary requirements of the major field have been satisfied, the chairman of the committee will report the fact in writing to the Dean of the School of Forestry. In the case of students who come to Duke University for only the last year of graduate work, and in special cases approved by the School of Forestry Faculty, the application for recognition as a candidate for the Doctor of Forestry degree may be filed later than provided above, but not later than October 15 of the ${ }_{0}$ academic year in which it is desired that the degree be conferred.

## PROGRAM OF STUDY

The program of study of a candidate for the Doctor of Forestry degree will be arranged after consultation with the committee provided for in the preceding section and is subject to the approval of the Dean and Faculty of the School of Forestry. The student must select a major field and one or two minor related fields. Both major and minor may be selected in different branches of forestry or the minor may be taken in a related field in some other school or department of Duke University.

## FOREIGN LANGUAGES

A reading knowledge of two foreign languages is required. One language shall be either French or German, and the other optional to fit the requirements of the student's problem. No student may come up for his preliminary examination before having satisfied the language requirements for the Doctor of Forestry degree. Foreign language examinations are conducted by the appropriate language department or, in special cases, by another qualified member of the Faculty of Duke University.

## PRELIMINARY EXAMINATION

Toward the end of the first full year of graduate work for the Doctor of Forestry degree (or in special cases early in the second year), a preliminary examination of each candidate will ordinarily be held covering the general field of his studies. This examination will be conducted by the committee in charge of the student's work and will be written. A student who passes the examination will be recognized as a candidate for the Doctor of Forestry degree. A student's major and minor subjects will ordinarily be included in this preliminary examination.

If a student fails on his first examination, he may make a second attempt after six months upon recommendation of his committee and approval by the Dean of the School of Forestry. Two failures on this examination make the student ineligible to continue work toward the Doctor of Forestry degree at Duke University.

## THESIS

The thesis for the Doctor of Forestry degree must be a contribution to knowledge. The subject of the thesis must be filed with the Dean of the School of Forestry on or before October 15 of the academic year in which the candidate desires to take the final examination for his degree. The subject must receive the written approval of the professor under whom the thesis is being written and of the Dean of the School of Forestry. The thesis must be completed to the satisfaction of the major professor. Four typewritten copies in approved form must be deposited with the Dean of the School of Forestry on or before April 15 if the student desires to be examined on the thesis in the same academic year. The title page must be approved by the Dean of the School of Forestry. Two of the copies, the original and a carbon copy, are placed in the School of Forestry library, one copy goes to the major adviser, and one is returned to the student.

The candidate's thesis must be published either in its original form or in a modified form approved by the Dean of the School of Forestry and the committee in charge of the candidate's work. In its published form the title page should include this statement: "A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Forestry in the School of Forestry of Duke University."

Before the degree is conferred the candidate must deposit with the Treasurer of the University a special thesis fee of fifty dollars in cash. If the thesis is published in a form satisfactory to the Dean of the School of Forestry and to the professor under whom it is written within a period of three years from the date the degree is granted the fee of fifty dollars is returned. Ten copies of the published thesis must be deposited in the office of the Dean of the School of Forestry as provided by regulations of the Faculty of this school.

## FINAL EXAMINATION

The final examination will be on the thesis and on related subject matter and will be oral. Approximately one year must elapse between the date of the preliminary examination and the final examination, except in special cases approved by the School of Forestry Faculty. Two failures on this examination make a student ineligible to continue work toward the Doctor of Forestry degree at Duke University. The second examination may be given only upon the recommendation of the professor in charge of the thesis and the approval of the Dean of the School of Forestry.

## GRADING

Members of the Faculty are expected to report grades of graduate students to the School of Forestry Office not later than February 15 for the first semester and not later than June 15 for the second semester on
the cards provided for that purpose. An average grade of " B " or better will be required for all work, beyond that for the degree of Master of Forestry, that is to be credited toward the Doctor of Forestry degree. A mark of "Incomplete" may be given when a student has failed, for an acceptable reason, to complete some portion of the required work in which his standing is generally satisfactory. Unless a report is made within one year that the work has been satisfactorily completed all credit will be lost.

## FORESTRY IN THE GRADUATE SCHOOL

Graduate work toward the Master of Arts and Doctor of Philosophy degrees in the more scientific branches of forestry is available to adequately prepared students at Duke University. This work is given through the Graduate School of Arts and Sciences by certain members of the School of Forestry Faculty.

The following special conditions will influence the acceptance of students for graduate study in forestry: The student must have received a degree from a professional school of forestry of recognized standing or from an approved college or university. Graduates of professional schools of forestry must also have had adequate training in liberal arts and sciences, approximating 86 semester hours, before being admitted to candidacy for the Master of Arts or Doctor of Philosophy degree. College graduates who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them.

The Forestry Staff will determine whether a student is qualified to pursue graduate study in any of the special fields of forestry in which work is available.

The Master of Arts and Doctor of Philosophy degrees are attained through scientific work rather than technical or professional training in forestry. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, forest entomology, silvics, forest soils, forest mensuration, forest management, and forest economics, except that a major cannot be taken in forest management. A student upon registration chooses a field of study which may lie in two or more departments. The members of the Graduate School Faculty best qualified in that field are named as the student's advisory committee, regardless of the department of which they are members. This committee will advise the student in the planning and conduct of his work and will evaluate it when completed.

A reading knowledge of French and German must be acquired early in the course of graduate study in forestry because much of the forestry literature of the world is written in or has summaries in these languages. For the Ph.D. degree the language requirement must be met before the preliminary examination is taken and usually before the preparation of the thesis is begun.

The length of time required for a student to obtain the Master of Arts and Doctor of Philosophy degrees in forestry is determined by the character of his previous work and by the quality of his work in the Graduate School. Upon the recommendation of the Forestry Staff and with the approval of the Council on Graduate Instruction, work of equal grade done in residence at another college or university, or at a research station or institute not connected with a college or university, may be
accepted toward a lh.D. degree, but at least the last year of the first two vears of graduate study must be spent in actual residence at Duke Unirersity. Only in connection with the preparation of the thesis will work be accepted that has been done elsewhere than in residence at a college, university, or research station.

Students whose research is concerned with the studly of trees and forest stands in the Duke Forest during the growing season may find it necessary to be at the University during the summer.

The field of study may include advanced work in allied subjects as well as advanced work in forestry. The students should have covered, however, most of the basic subjects prior to entering the Graduate School. The required advanced work will depend upon the student's previous training and the special field of study selected. Before beginning his work a student must obtain approval of his proposed program of study, including the plans for the research for his thesis. Courses of study must be correlated with each other and with the thesis research.

For further information on requirements for admission to the Graduate School of Arts and Sciences and on the general requirements for the Master of Arts and Doctor of Philosophy degrees reference should be made to the Bullctin of the Graduate School of Arts and Sciences.

# COURSES AND SUBJECTS OF INSTRUCTION 

With the exception of the summer session courses, odd-numbered courscs are offered in the autumn semester, and ceven-numbered courses are offered in the spring semester.

## IN THE SUMMER SESSION

C.E. S110. Plane Surveying.-A special section of C.E. 61 intended for students in Forestry and others of advanced standing. Four weeks, nine hours a day, beginning June 13, 1950. 4 s.h.

Mr. Brown
S150. Forest Surveying.-Application of plane surveying to forest problems ; practice in making boundary and topographic surveys of forested tracts, using both intensive and extensive methods. Work includes use of transit, level, traverse board, topographic abney and slope tape, and aneroid barometer. Prerequisites: Civil Engineering. S110, plane surveying, or equivalent. Five wecks, eight hours a day, beginning July 11, 1950. 5 s.h. (w)

Assistant Professor Rudolph
S151. Forest Mensuration.-Field studies in methods of measuring content and growth of trees and forest stands; practice in timber estimating, $\log$ scaling, use of mensurational instruments, and collection of basic data. Four zuceks, cight hours a day, beginning August 14, 1950. 4 s.h. (w)

Professor Schumacher

## FOR SENIORS AND GRADUATES

212. Harvesting and Processing Forest Products.-Methods of harvesting and processing products obtained from forests, with emphasis on application of methods to managed forests in important forest regions of North America and a consideration of costs. A two-week field trip in the southeast is required for visits to typical harvesting operations and manufacturing plants. 4 s.h. (w).

Professor Wackerman
213. Seasoning and Preservation of Wood.-Principles of seasoning lumber and other forest products by air drying and kiln drying, types of kilns and their operation; principles, methods, and materials used in treating wood to increase its durability. 3 s.h. (w) Professor Wackerman
214. Marketing Forest Products.-Methods of selling and distributing timber, lumber, and other forest products in domestic and foreign trade; transportation methods; promotional activities of trade associations; competition between producing regions for markets and problems arising from the development of wood substitutes. Prerequisites: Forestry 212 or equivalent. 3 s.h. (w)

Professor Wackerman
224. Forest Pathology.-Special reference to diseases of forest trees. Prerequisites: Botany 1 and 2, and Forestry 253, or equivalents. 3 or 4 s.h. (w)

Professor Wolp
231. Forest Entomology.-Morphology, general classification, life histories, and control of insects injurious to forest trees, logs, and lumber. 3 s.h. (iv)

Professor Beal
232. Forest Products Entomology.-Special reference to insects infesting forest products; recognition, character of damage, and control of species causing injury to manufactured wood products. 3 s.h. (w) Professor Beal
236. Forest Game Management.-Characteristics and life histories of forest animals; interrelationship between animals and forests; management of forest animals for revenue; control of noxious species. 3 s.h. (w)

Professor Beal
251. Sampling Methods in Forestry.-Statistical background for solution of sampling problems with special reference to sample inventory of a forest property. Offered both semesters. Prerequisite: Forestry S151. 3 s.h. (w)

Professor Schumacher
252. Forest Mensuration.-Empirical equations and curve fitting appropriate for construction of timber yield tables, tree volume and taper tables; significance tests and graphical solution of equations. Assignments require operation of calculating machines. Prerequisite: Forestry 251. 3 s.h. (w)

Professor Schumacher
253. Dendrology.-Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h. (w)

Professor Harrar
255. Bonding of Wood.-Preparation of veneers and lumber for bonding; types and characteristics of modern adhesives used in the manufacture of plywood and laminates; cold and hot pressing procedures; use of electronic heating; bag molding techniques; manufacture and properties of transmuted wood; inspection and testing procedures. Prerequisite: Forestry 260 or equivalent. 3 s.h. (w)

Professor Harrar
257. Design of Forestry Experiments and Analysis of Data.-Role of experimental design in field and laboratory, and statistical analysis of data as aspects of scientific methods in forest research. 5 s.h. (w)

Professor Schumacher
259. Wood Anatomy.-Study of the physical features and the gross and minute structural characteristics of wood leading to the identification of the commercial woods of the United States, and the important tropical woods used in American wood-working industries. Elementary microtechnique. Prerequisite: One year of botany. 3 s.h. (w)

Professor Harrar
260. Properties of Wood.-The chemical nature of wood substance and its industrial chemical derivatives. Wood-moisture relationships; pertinent nonmechanical physical properties; mechanical properties and factors affecting the strength of wood; standard timber testing procedures. Uses of woods as determined by their properties. Prerequisites: Forestry 259, one year of college chemistry; one course in college physics. 3 s.h. (w) Professor Harrar
261. Forest Soils.-Origin, development, and classification of soils with special emphasis on those developed in humid climates; morphological, physical, and chemical properties of soils in relation to growth of trees; effect of forests on soils. Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalents; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h. (w)

Professor Coile
263. Silvics.-Ecological foundations of silviculture with special reference to forest site factors; influence of forests on their environment; growth and development of trees and stands; origin, development, and classification of forest communities; methods of studying forest environments. Desirable prerequisites : plant physiology, plant ecology, and Forestry 253 and 261, or equivalents. 3 s.h. (w)

Professor Korstian
265. Theory and Practice of Silviculture.-Principles governing natural regeneration and treatment of forest stands and their application; reproduction methods, intermediate cuttings, and cultural operations. Field practice includes marking for various kinds of cuttings, cultural treatments, and study of managed stands in the Duke Forest. Prerequisite: Forestry 263 or equivalent. 3 s.h. (w)

Professor Korstian
266. Applied Silviculture.-Application and comparison of silvicultural practices to principal commercial forest species, types and regions of temperate North America, with particular emphasis on the South. Field work will include preparation of silvicultural plans and approximately one week at the spring camp studying silviculture in the Atlantic Coastal Plain. Prerequisite: Forestry 265 or equivalent. 2 s.h. (w)

Professor Korstian
268. Forest Seeding and Planting.-Place of artificial regeneration in practice of forestry; reforestation surveys and plans; collection, extraction, cleaning, testing, and storage of forest tree seeds; direct seeding; nursery practice; forest planting. 2 s.h. (w)

Professor Korstian
273. Forest Protection.-Principles of forest protection; causes, character and effects of forest fires; principles of forest fire prevention, presuppression and suppression; fire control costs and fire plans; protection against domestic animals, wildlife, and atmospheric agencies. 2 s.h. (w)

Assistant Professor Rudolph
275. Forestry Policy.-Critical study of forestry movement and development of a forestry policy, particularly in United States; brief résumé of forestry in important foreign countries; public land laws of United States; development of Federal and State forestry; forestry laws. 2 s.h. (w)

Professor Thomson
277. Economics of Forestry.-Principles of forest economics. Contributions of land, labor, and capital to income from forestry enterprises; costs of production and maintenance of forest income; forest resources and requirements in products and services; consumption and prices of forest products; forest ownership problems; forest appraisal and comparative valuation; forest fire insurance and forestry credit ; forest taxation; timber marketing problems; effect of business cycles and long-term trends upon demand and prices of forest products. Prerequisite: at least one course in the principles of economics. 3 s.h. (w)

Professor Thomson
278. Forest Valuation.-Principles underlying the appraisal of values of forests and forestry. The use of interest and the discount process in timber appraisals for going enterprises and in determinations of the profitability of prospective forestry enterprises. Use of sale comparisons and conversion returns as aids in forest valuation. Prerequisites: Forestry 277 and 280, or equivalents. Not open to students who have previously had a course in forest valuation. 3 s.h. (w)

Professor Thomson
279. Economic Analysis in Forestry.-Economic analysis as an aid in the solution of forestry problems. Applications peculiar to forestry in consideration of land and economic rent, labor and wages, capital and interest, risk, and flow of income; use of marginal cost and comparative valuation in testing efficiency of forestry operations and in solving problems of land use and forest ownership; analysis of timber prices and their relation to the business cycle; critical analysis of suggested solutions of the problems of forest taxation, forest insurance, and forestry credit. Open only to graduates of schools of forestry. 3 s.h. (w)

Professor Thomson
280. Forest Management.-Principles of organizing forest properties for systematic management; use of data obtained in surveys and inventories; principles of forest regulation, including a study of normal and actual forests, rotations, cutting cycles, and methods of regulating the cut in even-aged and all-aged forests for sustained yield; introduction to the preparation of preliminary forest management plans. Prerequisite: Forestry 251 or equivalent. 3 s.h. (w)
282. Management Plans.-The preparation of a preliminary forest management plan. Relocation of property boundaries; forest surveys and inventories; subdivision of forest properties for management purposes; determination of the increment and regulation of the cut; selection of applicable methods of silvicultural treatment; provisions for the protection, operation and general administration oi forest properties; forest records. One week is spent in field work in the South Atlantic Coastal Plain. Prerequisites: Forestry 265 and 280 or equivalents. 2 s.h. (w) Assistant Professor Rudolph

212A to 282A. Special Studies in Forestry.-Work on the same level as the foregoing Senior-Graduate courses to meet the needs of individual students. Credits and hours to be arranged.

The Staff

## FOR GRADUATES

301-302. Advanced Studies in Forestry.-Credits to be arranged. To meet individual needs of graduate students in the following branches of forestry:
a. Silvics.-Prerequisites: Forestry 253, 261, and 263, or equivalents. Professor Korstian
b. Forest Soils.-Prerequisite : Forestry 261 or equivalent.

Professor Coile
c. Silviculture.-Prerequisites: Forestry 265 and 266 or equivalent.
d. Forest Management.-Prerequisite: Forestry 280 or equivalent.

Assistant Professor Rudolph
e. Forest Economics.-Prerequisite: Forestry 277 or 279 or equivalent.

Professor Thomson
f. Properties of Wood.-Prerequisites: Forestry 259 and 260, or equivalents.

Professor Harrar
g. Forest Mensuration.-Prerequisite: Forestry 252, or equivalent.

Professor Schumacher
h. Forest Entomology.-Prerequisites: Forestry 231, 232 or equivalent.

Professor Beal
i. Forest Utilization.-Prerequisite: Forestry 212 or equivalent.

Professor Wackerman
j. Dendrology.-Prerequisite : Forestry 253 or equivalent.

Professor Harrar
311. Advanced Forest Utilization.-Analysis of the principles of determining the cost of and returns from harvesting and manufacturing timber for various products and other uses of forests; study of factors governing the relation of tree size to net stumpage values; and the application of these principles and methods in the solution of actual case problems. Prerequisite: Forestry 212 or equivalent. 3 s.h. (w) Professor Wackerman
320. Seminar in Silviculture.-Arranged primarily to give graduates of other schools of forestry special training in the silviculture of the forests of the South. Approximately one week will be spent at the spring camp studying silviculture in the Coastal Plain. Prerequisite: At least one course in silviculture. 3 s.h. (w)

Professor Korstian
322. Soil Classification and Mapping.-Classification of soils as natural bodies. Mapping of soils, land use classes and forest site classes. Prerequisite: Forestry 261. 2 s.h. (w)

Professor Coile

323-324. Advanced Forest Pathology.-Advanced study and research on life histories and control of diseases of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and forest pathology. Credits to be arranged.

Professor Wolf
351-352. Advanced Physiology of Forest Trees.-Advanced study and research on problems in physiology of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and plant ecology or silvics. Credits to be arranged.

Professor Kramer
354. Forest Soil Fertility.-Experimental approach to the problems of fertility in forest soil. Influence of stand composition on nitrogen transformation. Methods of studying the exchange complex and the significance of base exchange in forest soil fertility. Prerequisites: Forestry 251 and 261, plant physiology, bacteriology and analytical chemistry. 3 s.h. (w)

Professor Coile
356. Comparative Forest Valuation.-Critical analysis of classical and zontemporary doctrines of comparative forest valuation. Principles underlying the measurement of forces affecting values of land for forestry and alternative uses and investments of capital. Solution of problems involving procedures based upon these principles. Prerequisites: Forestry 277, 278, or 279, or equivalent; courses in economic theory are desirable. 2 s.h. (w)

Professor Thomson
357-358. Research in Forestry.-Credits to be arranged. Students who have had adequate training may do research under direction of members of the Faculty in the branches of forestry indicated under courses 301-302 with the same prerequisites as thereunder noted. Each branch to bear the same letter designation as under Courses 301-302.

The Staff

## FEES AND EXPENSES

The following tables show the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester, and no student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.

GENERAL FEES

TRANSCRIPTS
A student desiring to transfer from Duke University to another institution is entitled to one transcript of his record. A charge of one dollar is made for each additional copy.

## PAYMENTS TO FELLOWS AND SCHOLARS

Payments by the University of stipends to fellows, research assistants, and scholars are made in four installments, on November 25, January 25, March 25, and May 25. Fellows and scholars are required to pay the regular tuition fee and such additional fees as are ordinarily required of graduate students.

## ROOMS AND CONDITIONS OF RENTING THEM

## Room-rent for Men of Duke University

Single room, per semester ..................................................... $\$ 87.50$
Double room, per student, per semester ........................................ . 62.50
Rooms may be reserved only for applicants who have been officially accepted by the University. A fee of $\$ 25.00$ is required for reservation. This fee is deducted from the room rental charge at the time of registration for the semester; it is not refunded unless application for the refund is made 60 days prior to the registration date of the semester.

A resident student in order to retain his room for the succeeding semester must make application, accompanied by a reservation fee of $\$ 25.00$. All rooms which have not been reserved on or before an announced date will be considered vacant for the succeeding semester and will be reserved in the order in which applications are made.

Rooms are rented for no shorter period than one semester unless by special arrangement with the Housing Bureau. A period of occupancy other than a semester and without special arrangement will be charged at a minimum rate of $\$ 1.00$ per day.

The exchange of rooms.may be arranged at the Housing Bureau within 15 days after the official opening of either semester of the school term. A charge of two dollars ( $\$ 2.00$ ) will be made for the exchange of rooms after the periods allowed for such exchange. Persons exchang-
ing rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume the responsibility for the personnel selected as roommates. Each student is urged to select the roommate when the room is reserved.

## DORMITORIES FOR MEN

On the West Campus there are four groups of dormitories, Craven, Crowell, Kilgo, and Few. Each group forms a quadrangle enclosing a court. Few Quadrangle is reserved especially for the use of graduate and professional school students.

## BOARDING ACCOMMODATIONS

West Campus.-Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day depending upon the need and taste of the individual. The dining facilities in the Union on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room where full meals and a la carte items are served. In the Union also are located the U. S. Post Office, the University Store, the University Barber Shop, and miscellaneous offices and assembly rooms.

## ESTIMATED EXPENSES FOR AN ACADEMIC YEAR

The necessary expenses of a graduate student are moderate: the University dormitories provide thoroughly comfortable and wholesome living conditions at a minimum cost, while all charges made by the University have been kept low. Incidental expenses naturally depend upon the tastes and habits of the individual. The following table gives the necessary college expenses for one year:

|  | Low | Moderate | Liberal |
| :---: | :---: | :---: | :---: |
| Tuition | \$350.00 | \$ 350.00 | \$ 350.00 |
| General Fee | 120.00 | 120.00 | 120.00 |
| Room-rent | 125.00 | 125.00 | 175.00 |
| Board | 337.50 | 388.00 | 468.00 |
| Laundry | 20.00 | 25.00 | 35.00 |
| Books | 22.50 | 30.00 | 45.00 |
| Athletic Fee (optional) | 10.00 | 10.00 | 10.00 |
| Total | \$985.00 | \$1,048.00 | \$1,203.00 |

## ENROLLMENT 1949-50

*Avery, Thomas Eugene (B.S.F., University of Georgia), Atlanta, Ga.
**Bree, Jacobus Christiaan (B.S., State College of Tropical Agriculture at Deventer, Hol land), The Hague, Holland.
*Cairns, Frank Elmer, Jr. (B.S., Duke University), Madison, Wis.
${ }^{*}$ Campbell, Craig Carol (B.S., Duke University), University, N. C.
${ }^{*}$ Cantelou, Lamar Black (A.B., University of the South), Montgomery, Ala.
Chalfant, Jesse Wayne (B.S., Pennsylvania State College; M.F., Yale University, 1941), Raleigh, N. C.
*Collicott, Lloyd Vincent (B.S., Duke University), Durham, N. C.

* Côté, Wilfred Arthur, Jr. (B.S., University of Mlaine), Williamantic, Conn.
* Cyphers, Harry Wolfe, Jr. (B.S., Rutgers University), Ridgefield Park, N. J.
*Davison, Alexander Thayer (B.S., Duke University), Durham, N. C.
Deetlefs, Philippus Petrus du Toit (B.S., University of Stellenbosch; M.F., Duke University), Clanwilliam, So. Africa.
* Doolittle, Warren Truman (B.S.F., Iowa State College), Webster City, Ia.
* Evans, Gerald Wilbert (B.S., Duke University), Connellsville, Pa.
* Gabriel, William John (B.S., University of New Hampshire), Springfield, Ill.
*Gill, Robert C. (A.B., Duke University), Pelham Manor, N. Y.
*Gilnore, Alvan Ray (B.S.F., University of Florida), Pensacola, Fla.
* Glabau, William Edward (B.S., University of Massachusetts), New Britain, Conn.
*Hallberg, Russell Kurt (B.S.F., Michigan State College), Chicago, Ill.
${ }^{*} H a w k i n s$, William Theron (B.S., Furman University), Taylors, S. C.
*Hosner, John Frank (B.S.F., Míchigan State College), Gillespie, Ill.
${ }^{*}$ Johnson, Ernest Sigurd (B.S., New York State College of Forestry), Raleigh, N. C.
*Johnson, Robert Bruce (B.S., Virginia Polytechnic Institute), Norfolk, Va.
${ }^{1}$ Jones, Austin Freeman (B.S., Stephen F. Austin State Teachers College), Winnsboro, S. C.
*Jones, Edward Earl (B.S., Duke University), Durhanı, N. C.
*Kinghorn, James Myles (B.S.F., University of British Columbia), Victoria, B. C.
*Knight, Fred Barrows (B.S., University of Maine), Waterville, Me.
*Knudsen, Lyle Leonard (B.S., Morningside College), Battle Creek, Ia.
${ }_{1}$ Labyak, Leo Francis (B.S.F., Michigan College of Mining and Technology; M.F., Duke University), Ontonagon, Mich.
${ }^{* *}$ Ledford, Roy Henry (B.S., Berea College), Barnardsville, N. C.
*Lowery, David Perry (B.S., University of Akron; B.S., Michigan State College), Akron, Ohio.
${ }^{* *}$ Maple, William Robert (B.S., Rutgers University), Lawrenceville, N. J.
* Marlow, Ernest Grant (B.S., Duke University), Front Royal, Va.
${ }^{*}$ * May, Robert Legard (B.S., Virginia Polytechnic Institute), Glade Spring, Va.
*Newman, Walker Preston (B.S., Virginia Polytechnic Institute), Arlington, Via.
***Parker, Johnson (A.B., Harvard College; M.F., Yale University), Cambridge, Mass.
${ }^{* *}$ Peabody, Arthur William, II (B.S., Rutgers University), Stelton, N. J.
*Pfeiffer, Jack Russell (B.S., Colorado A. \& M. College), Denver, Colo.
${ }^{* *}$ Phythyon, Hugh Reed (B.S., Allegheny College), Sharpsville, Pa.
*Porter, John Allamong (B.S., West Virginia University), Morgantown, W. Va.
${ }^{*}$ Powers, Harry Robert, Jr. (B.S., North Carolina State College), Norfolk, Va.
${ }^{* *}$ Ray, Philip Lancaster (B.S., University of Minnesota), Greenville, S. C.
${ }^{*}$ Smith, Bernard Fletcher (B.S., North Carolina State College), Norfolk, Va.
${ }_{* * * *}^{*}$ Smith, David V. (B.S.F., University of Georgia), Lumpkin, Ga.
${ }^{* * *}$ Smith, Richard Chandler (B.S., University of Minnesota; M.F., Duke University), St. Paul, Minn.
**Smith, Waring Wright, Jr. (B.S., Virginia Polytechnic Institute), Franklin, Va.
*Smithey, John Willie (B.S., Louisiana Polytechnic Institute), Heflin, La.
* Sprague, Edward Dubois (B.S., University of Massachusetts), Lynn, Mass.
*Thomasson, Gerald Ste. Gemme (B.S., University of Missouri), Columbia, Mo.
${ }^{*}$ Thompson, Lawrence Nathaniel, Jr. (B.S.F., University of Georgia), Mt. Vernon, Ga.
*Thorne, Harry Wallace (B.S., University of Massachusetts), Wakefield, Mass.
*Turpin, David Howard (B.S., Duke University), Bedford, Va.
Warner, John Robinson (B.S., Duke University; M.F., Duke University), Walkersville, Md.
*Wright, Kenneth Harold (B.S.F., University of Washington), Seattle, Wash.
${ }^{* * *}$ Wu, Chung-lwen (B.Agr., University of Nanking; M.F., Yale University), Feng-chiao, Chuchi, Chekiang, China.
*Wyckoff,' Peter Judson (B.S., Michigan State College), Greencastle, Ind.
Zak, Bratislav (B.S., Pennsylvania State College; M.F., Duke University), Pittsburgh, Pa.
*Zirkle, John Jacob, Jr. (B.S., Colorado A. \& M. College), New Market, Va.


## STUDENTS OF FORESTRY IN THE GRADUATE SCHOOL OF ARTS AND SCIENCES

Boyce, John Shaw, Jr. (B.S., Yale University; M.F., Yale University), New Haven, Conn Bryant, Ralph Clement (B.S., Yale University; M.F., Yale University), New Haven, Com1. Knudsen, Lyle Leonard (B.S., Morningside College), Battle Creek, La.

[^2]Metz, Louis John (B.S., Michigan State College; M.F., Duke University), Crawford, Colo.
Wenger, Karl Frederick (B.S., University of Maine; M.F., Duke University), Bucking.
ham, Va.
Total.

## ACADEMIC-FORESTRY SENIORS IN THE SCHOOL OF FORESTRY

Barnes, Robert Lloyd. Royersford, Pa.
Foreman, Edwin Earl. Durham, N. C. Gilmer, William Dryden. Kingsport, Tenn. Hawes, Raymond Burke. Northport, N. Y. Massey, William Everard, Jr. Charlotte, N. C.
Willians, Webster Douglas. Pinopolis, S. C. Zahner, Robert. Highlands, N. C.
Total. ..... 7
INSTITUTIONS REPRESENTED
Allegheny College 1 Stephen F. Austin State Teachers
Berea College College ..... 1
Colorado A. \& M. College 2 University of Akron ..... 1
Duke University 14 University of British Columbia ..... 1
Furman University University of Florida ..... 1
Harvard College 1 University of Georgia ..... 3
Iowa State College 1 University of Maine ..... 2
Louisiana Polytechnic Institute 1 University of Massachusetts ..... 3
Michigan College of Mining \& University of Minnesota ..... 2
Technology 1 University of Missouri1
Michigan State College 4 University of Nanking ..... 1
Morningside College .............. 1 University of New Hampshire ..... 1
New York State College of University of the South ..... 1Forestry
North Carolina State College 2 University of Washington1 University of Stellenbosch1
Pennsylvania State College ..... 1 ..... 1
2 Virginia Polytechnic Institute ..... 4
Rutgers University 3 West Virginia University ..... 1
State College of Tropical Agri-
culture at Deventer, Holland 1 Total Institutions ..... 33
GEOGRAPHICAL DISTRIBUTION United States
Alabama 1 Minnesota ..... 1
Colorado 1 Missouri ..... 1
Connecticut 2 New Jersey ..... 3
Florida 1 New York ..... 1
Georgia 3 North Carolina ..... 7
Illinois 3 Ohio ..... 1
Indiana 1 Pennsylvania ..... 3
Iowa 2 South Carolina ..... 3
Louisiana 1 Virginia ..... 9
Maine ..... 1
Maryland 1 West Virginia ..... 1
Massachusetts 3 Wisconsin ..... 1
Michigan Total States ..... 25
Foreign Countries
Canada 1 Holland ..... 1
China 1 South Africa ..... 1
GENERAL SUMMARY
Students in the School of Forestry ..... 57
Students of Forestry in the Graduate School of Arts and Sciences ..... 5
Academic-Forestry Seniors in the School of Forestry ..... 7
Total Enrollment ..... 69
Total number of institutions represented ..... 33
Total number of states represented ..... 25
Total number of foreign countries represented ..... 4


# BULLETIN OF <br> <br> DUKE UNIVERSITY 

 <br> <br> DUKE UNIVERSITY}

The College of Engineering

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N.:C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary. Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Law, apply to The Dean of the School of Law, Duke University, Durham, N. C.
For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.
For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.
For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

# BULLETIN <br> OF <br> <br> Duke University 

 <br> <br> Duke University}


## COLLEGE OF ENGINEERING

1949-1950

ANNOUNCEMENTS FOR 1950-1951

DURHAM, NORTH CAROLINA


Engineering Building

## CALENDAR OF THE COLLEGES

## THE COLLEGE OF ENGINEERING, TRINITY COLLEGE, THE WOMAN'S COLLEGE

1950
Sept. 14 Thursday, 9:00 A.m.-Dormitories open to Freshnien.
Sept. 14 Thursday, 7:30 P.M.-Assembly for all entering Freshmen; Freshman Orientation Program begins.
Sept. 18 Monday-Registration and matriculation of new students with adyanced standing, Trinity College and the College of Engineering.
Sept. 19 Tuesday-Registration and matriculation of new students with advanced standing, Woman's College.
Sept. 20 Wednesday, 11:00 A.m.-Formal opening of the Colleges.
Sept. 21 Thursday-Instruction begins.
Nov. 11 Saturday-Last day for reporting mid-semester grades.
Nor. 14 Tuesday-Junior Examination in English Usage.
Nov. 23 Thursday-Thanksgiving Day: a holiday.
Dec. 11 Monday-Founders Day.
Dec. 20 Wednesday, 5:00 P.M.-Christmas recess begins.
1951
Jan. 4 Thursday, 8:00 A.M.-Instruction is resumed.
Jan. 17 Wednesday-Mid-year examinations begin.
Jan. 27 Saturday-Mid-year examinations end.
Jan. 29 Monday-Registration and matriculation of new students.
Jan. 30 Tuesday-Last day for matriculation for second semester.
Jan. 31 Wednesday-Second semester begins.
March 15 Thursday-Last day for reporting mid-semester grades.
March 2f Saturday, 12:30 p.m.-Spring vacation begins.
April 2 Monday, 8:00 A.m.-Instruction is resumed.
May 21 Monday-Final examinations for second semester begin.
May 31 Thursday-Final examinations end.
June 2 Saturday-Commencement begins; Senior Class Day; meeting of the Board of Trustees.
June 3 Sunday-Commencement Sermon.
June 4 Monday-Commencement Address; Graduating Exercises.

## 1950

| JANUARY |  |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| s | M | T | w | T | F |  | S | M | T | w | T | F |  | S | M | T | w | T | F | S | S | M | T | w | T | F | s |
|  | 2 | $1{ }^{3}$ | 4 | 5 | 13 |  |  | 3 | 4 | 5 | 6 | 7 | 8 |  | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 10 |  | 5 | 13 | 7 14 |
|  | 16 | 17 | 18 | 19 | 20 | 21 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|  | 23 | 24 | 25 | 26 | 27 | 28 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|  | 30 | 31 |  |  |  |  | $\begin{aligned} & 23 \\ & 30 \\ & \hline \end{aligned}$ |  | 25 | 26 | 27 | 28 | 29 | 23 30 |  |  |  |  |  | 29 |  | 30 |  |  |  |  |  |
| FEBRUARY |  |  |  |  |  |  | MAY |  |  |  |  |  |  | AUGUST |  |  |  |  |  |  | NOVEMBER |  |  |  |  |  |  |
| S | M | T | W | T | F | S | S | M | T | w | T | $F$ | S | S | M | T | w | T | F | s | S | M | T | w | T | F | S |
| 5 6 7 8 9 10 11 <br> 12 13 14 15 16 17 18 <br> 19 20 21 22 23 24 25 <br> 26 27 28     |  |  |  |  |  |  | 7 | 8 | 2 | 10 | 11 | 12 | 13 | 6 |  | 8 | 2 |  |  |  | 5 | 6 | 7 | 8 | 2 | 10 | 11 |
|  |  |  |  |  |  |  | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|  |  |  |  |  |  |  | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|  |  |  |  |  |  |  | 28 | 29 | 30 | 31 |  |  |  |  | 28 | 29 | 30 |  |  |  |  | 27 | 28 | 29 | 30 |  |  |
| MARCH |  |  |  |  |  |  | JUNE |  |  |  |  |  |  | SEPTEMBER |  |  |  |  |  |  | DECEMBER |  |  |  |  |  |  |
| s | M | T | w | T | F | S | s | M | T | w | T | F | s | S | M | T | w | T | F | S | s | M | T | w | T | F | s |
| 5 6 7 8 2 3 4 <br> 12 13 14 15 16 17 11 <br> 19 20 21 22 23 24 25 <br> 26 27 28 29 30 31  |  |  |  |  |  |  | 4 | 5 | 6 | 7 | 8 | 2 | 10 | 3 | 4 | 5 | 6 | 7 | 8 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 2 |
|  |  |  |  |  |  |  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 10 | 11 |  | 13 | 14 | 15 | 16 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|  |  |  |  |  |  |  | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|  |  |  |  |  |  |  |  | 26 | 27 | 28 | 29 | 30 |  |  | 25 | 26 | 27 | 28 |  | 30 | 24 31 |  |  |  |  | 29 | 30 |

## 1951

| JANUARY |  |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| s | M | T | w | T | F |  | S | M | T | w | T | F | S | s | M | T | w | T | F | S | S | M | T | w | T | F | s |
|  | 1 | 2 |  |  |  |  | 1 | 2 | 10 | 11 | 5 | 13 |  | 1 | 2 | 10 |  |  |  | 14 | 7 | 1 | 2 |  | 11 | 5 | 6 13 |
|  | 15 | 16 | 17 | 18 | 19 | 20 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 15 | 16 |  | 18 | 19 | 20 | 21 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|  | 22 | 23 | 24 | 25 | 26 |  | 22 | 23 | 24 |  |  | 27 | 28 | 22 | 23 |  |  |  |  | 28 | 21 | 22 |  |  | 25 |  | 27 |
|  |  | 30 |  |  |  |  | 29 | 30 |  |  |  |  |  |  |  | 31 |  |  |  |  |  | 29 |  |  |  |  |  |
| FEBRUARY |  |  |  |  |  |  | MAY |  |  |  |  |  |  | AUGUST |  |  |  |  |  |  | NOVEMBER |  |  |  |  |  |  |
| S | M | T | w | T | F | S | S | M | T | w | T | F | S | S | M | T | w | T | F | S | S | M | T | w | T | F | S |
| 4 5 6 7 8 2 3 <br> 11 12 13 14 15 16 17 <br> 18 19 20 21 22 23 24 <br> 25 26 27 28    |  |  |  |  |  |  |  | 7 |  | 2 |  |  |  | 5 | 6 | 7 | 8 | 2 | 10 | $1{ }^{4}$ | 4 | 5 | 6 |  | 1 | 2 |  |
|  |  |  |  |  |  |  |  | 14 | 15 | 16 | 17 | 18 | 19 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |  | 12 | 13 | 14 | 15 | 16 | 17 |
|  |  |  |  |  |  |  | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 19 | 20 |  | 22 | 23 | 24 | 25 | 18 | 19 |  | 21 | 22 | 23 | 24 |
|  |  |  |  |  |  |  |  | 28 | 29 | 30 |  |  |  |  | 27 | 28 | 29 | 30 |  |  |  | 26 | 27 | 28 | 29 |  |  |
| MARCH |  |  |  |  |  |  | JUNE |  |  |  |  |  |  | SEPTEMBER |  |  |  |  |  |  | DECEMBER |  |  |  |  |  |  |
| 5 | M | T | w | T | F | S | s | M | T | w | T | F | s | s | M | T | w | T | F | s | s | M | T | w | T | F | S |
| 4 5 6 7 8 9 10 <br> 11 12 13 14 15 16 17 <br> 18 19 20 21 22 23 24 <br> 25 26 27 28 29 30 31 |  |  |  |  |  |  | 3 | 4 | 5 | 6 | 7 | 8 |  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|  |  |  |  |  |  |  | 10 |  | 12 | 13 | 14 |  | 16 | 9 |  |  | 12 |  |  | 15 | 9 |  |  | 12 | 13 |  | 15 |
|  |  |  |  |  |  |  | 17 | 18 | 19 | 20 | 21 |  | 23 | 16 |  |  | 19 | 20 |  | 22 | 16 |  |  | 19 | 20 |  | 22 |
|  |  |  |  |  |  |  |  | 25 | 26 | 27 | 28 | 29 | 30 | 23 30 |  |  |  |  |  | 29 | 23 30 | $\begin{array}{r} 24 \\ 31 \\ \hline \end{array}$ |  |  |  |  | 29 |

## OFFICERS OF ADMINISTRATION

Arthur Hollis Edens, B.Ph., A.M., M.P.A., Ph.D., Ll.D. President of the University

West Campus
Paul Magnus Gross, B.S., A.M., Ph.D. Vice-President in the Educational Division

Hope Valley
Charles Edward Jordan, A.B., LL.D. Vice-President in the Division of Public Relations and Secretary of the University

813 Vickers Avenue
Herbert James Herring, A.B., A.M., Ll.D. Vice-President in the Division of Student Life

Myrtle Drive
William Holland Hall, A.B., A.M., B.C.E., M.S.C.E. Dean, College of Engineering

922 Urban Avenue
Alan Krebs Manchester, A.B., A.M., Ph.D. Dean of Undergraduate Studies

Myrtle Drive
IVilliam Council Archie, A.B., A.M., Ph.D. Assistant Dean, in Charge of Freshmen

2113 Sprunt Street
Everett Broadus Weatherspoon, A.B. Director of Admissions

125 Pinecrest Road

## COUNCIL OF THE COLLEGE OF ENGINEERING

Dean, W. H. Hall.
Dean of Undergraduate Studies, A. K. Manchester
Civil Engineering, H. C. Bird, J. W. Williams.
Electrical Engineering, W. J. Seeley, Otto Meier, Jr.
Mechanical Engineering, R. S. Wilbur, F. J. Reed.
English, G. C. Harwell.
Mathematics, J. J. Gergen.
Physics, W. V. Smith.
Secretary, E. B. Weatherspoon.

## COMMITTEE OF THE BOARD OF TRUSTEES ON ENGINEERING AND RESEARCH

G. M. Ivey, E. L. Jones, E. W. Webb, B. E. Jordan, H. C. Doss. A. H. Sands, Jr., N. A. Cocke.

## INSTRUCTIONAL STAFF

William Holland Hall, A.B., A.M., B.C.E., M.S.C.E. Professor of Enyinecriny, Dean, Collcge of Engincering

922 Urban Avenue
*Haroli, Crusies Bird, Ph.B., C.E. Professor of Ciail Enginccring, Chairman, Department of Cizil Enginecring 1209 Virginia Avenue

* Walter James Seeley, E.E., M.S.

Professor of Elcctrical Enginccring.
Chairman, Department of Electrical Enginecring 1005 Urban Avenuc
Ralph Sydney Wilbur, B.S. in M.E., M.E.
I'rofessor of Mechanical Enyinecring,
Chairman, Department of Mechanical Enyincering 1018 Demerius Street
**F. Kent Boutwell, B.S. in M.E.
Instructor in Mechanical Engincering 618 Ruby Street
Chandler Wilcox Brown, B.S. in C.E. Instructor in Civil Engincering
142.3 Woodland Drive

Roger Baxter Davis, Licensed Architect R. D. No. 1, Durham lisitiny Instructor in Gencral Enginccring (Parl-time)
Frank Nicholas Egerton, A.B., A.M., E.E. Assistant Projessor of Electrical Enginccring 411 N. Gregson Street
Howard N. Haines, B.S.
Assistant Professor of Gencral Enginecring 2307 Club Boulevard
William Marion Hardy, B.S. in M.E. Instructor in Mechanical Engincering

Chapel Hill, N. C.
Marvin Thomas Hatley, Jr., B.S. in E.E.
Instructor in Elcctrical Engincering Duke University
Ray Walter Holland, B.S. in M.E. Instructor in Mechanical Engincering 600 Colgate Strect
** Henry Hunter Jones, A.B., C.E. Visiting Assistant Professor of Gencral Enginccriny 129 Pinecrest Road
Van Leslie Kenyon, B.S. in M.E.
Assistant Professor of Mechanical Enginecring Hillsboro, N. C.
Edward K. Kraybill, B.S. in E.E., M.S.E.
Assistant Professor of Electrical Enginecring 900 Dacian Avenue
Ralph E. Lewis, B.S. in M.E., M.S. in M.E.
Assistant Professor of Gencral Engincering 1308 Markhan Avenue
Vance Bacon Martiñ, B.S. in E.E.
Visiting Instructor in Electrical Engineering Hillsboro, N. C.
Ralph Pierpont Morgan, Jr., B.S. in M.E. Instructor in Mcchanical Enginccring

910 Sixth Street

[^3]| Otto Meier, Jr., B.S. in E.E., M.S., E.E. Associate Professor of Electrical Engincering | 916 Monmouth Avenue |
| :---: | :---: |
| Aubrey E. Palmer, B.S. in Engr., C.E. Assistant Professor of Civil Engincering | 2519 State Street |
| David Rabin, B.S. in M.E. <br> liisiting Instructor in Mcchanical Enginecring | 2014 Bivins Street t-time) |
| Frederici Jerome Reed, M.E., M.S. <br> Associate Professor of Mechanical Engincering | 2203 Englewood Avenue |
| Grimes Gibbons Slaughter, B.S. in E.E. Instructor in Electrical Engincering | Duke University |
| William Brewster Snow. B.S. in C.E., M.S., Sc Associate Professor of Cizil Enginecring | 22 West Trinity Avenue |
| Charles Rowe Vail, B.S. in E.E., Mi.S. (E.E.) <br> Assistant Professor of Electrical Engineering | 900 Dacian Avenue |
| Leslie Clifford Wilbur, B.S., M.S. Instructor in Mechanical Enginecring | Duke University |
| Jesse Holland Wilder, B.S. in M.E., M.S. Instructor in Gencral Enginecring | Duke University |
| James Wesley Williams, A.B., B.S. in C.E., M.S. Assistant Profcssor of Civil Engincering | 206 Swift Avenue |
| Mrs. Ethel Long Kale Librarian | Chapel Hill Road |
| Joseph Philip Edwards Laboratory Technician in Elcctrical Engincering | 1604 B |

Laboratory Technician in Elcctrical Engincering
1604 B Street

Instruction in Non-Engineering subjects is given by members of the General Faculty listed in the Bulletin of Undergraduate Instruction.

## GENERAL STATEMENT

Duke University, through the College of Engineering, offers standard four-year courses in Civil, Electrical, and Mechanical Engineering. In addition to the technical subjects leading to professional engineering work, correlated instruction is given in English, economics, mathematics, chemistry, physics, history, and non-technical electives.

## ACCREDITING

The Engineers' Council for Professional Development has accredited the Duke University College of Engineering in all three of its curriculaCivil, Electrical, and Mechanical Engineering. The ultimate authority of the engineering profession on educational standards, the Council represents the five major professional engineering societies of national scope and the state boards of engineering examiners. In addition, the three curricula of the College of Engineering are approved by the Regents of the State of New York and by other national and regional accrediting groups.

By this accrediting Duke engineering graduates are assured of full recognition of their educational background, both in admission to professional organizations and in the issuance of licenses for professional practice.

## FACULTY

The members of the Instructional Staff are men of recognized professional competence who have been chosen particularly for their ability to teach. Instruction is given in small sections in order to provide personal attention for each student.

## HISTORY

Instruction in engineering subjects began at Duke University in 1887. Separate departments in civil and electrical engineering were established in 1927; instruction in mechanical engineering began in 1930. This arrangement led in 1937 to the establishment of the Division of Engineering, which included the separate Departments of Civil, Electrical, and Mechanical Engineering.

In 1939 the Division composed of these three Departments was incorporated into the University structure as the College of Engineering, one of the three coordinate undergraduate colleges of Duke University. Through the College of Engineering, Duke University now offers the degree of Bachelor of Science in Civil, Electrical, or Mechanical Engineering.

## ADMINISTRATION

The chief administrative officer of the College of Engineering is the Dean, who correlates the activities of the three component Departments
of Civil, Electrical, and Mechanical Engineering. Three departmental Chairmen supervise the work of their respective departments. Together with the Dean, these Chairmen constitute the Executive Committee of the College.

The Council of the College of Engineering is authorized to exercise all educational functions that lie within its field. The Council consists of the Dean of the College of Engineering, the Dean of Undergraduate Studies, the Chairman and one representative from each department of engineering, and three members to be appointed annually by the President from the general faculty representing departments in which students of engineering are required to take work.

## PHYSICAL PLANT

A major step in the evolution of engineering instruction at Duke University was completed when the College of Engineering first occupied a new physical plant in January, 1948. This structure is on the West Campus in a setting of tall pines apart from the Main Quadrangle and yet within a few hundred feet of the Duke Chapel tower. Unlike the Gothic buildings of the Main Quadrangle, the Engineering Building is of Georgian Colonial style, with red brick façade and white stone trim.

This E-shaped building houses the entire College of Engineering. It has a total volume of $1,200,000$ cubic feet and provides a floor area of 70,000 square feet. Each of the three wings houses the laboratories and the specialized classrooms of one of the three engineering departments. The main portion of the building has offices, classrooms, and other general facilities.

## GENERAL FACILITIES

Provided in the Engineering Building for the use of all three departments of engineering are a number of general facilities.

Library: The Engineering Library contains a growing collection of approximately 13,000 volumes on engineering and closely related subjects, and in addition subscribes to approximately 210 periodicals, of which 130 are bound each year. The well-lighted reading room has seating accommodations for 48 students. Engineering students also have full access to the University Library, to the Woman's College Library, and to the various specialized departmental libraries.

Lecture Room: An attractively decorated lecture room seating 216 people permits audio-visual instruction of large groups.

Classrooms: There are nine well-lighted classrooms seating an average of 30 students per room.

Drafting Rooms: Five drafting rooms that accommodate an average of 30 students each facilitate work in the various courses in which graphic methods are taught and employed.

Mimeographing and Blue-Printing: A special room is furnished with equipment for reproducing printed matter and diagrams by either mimeographing, blue-printing, or white-printing.

Photographic Dark Room: In a separate room are facilities for processing a wide variety of photographic material used to supplement course instruction.

Student Lounge: A convenient lounge is provided for the use of students.

Engineering Publications Room: The staff of the DukEngineer, official student-published magazine of the College of Engineering, has its headquarters in the building.

Conference Room: A special room is furnished for conference work by faculty committees and for student interviews with visiting industrial personnel representatives.

## THE AIR FORCE RESERVE OFFICERS' TRAINING CORPS

Duke University, in cooperation with the United States Air Force presents the Air Force Reserve Officers' Training Corps program administered by an Air Force ROTC Unit under the command of the Professor of Air Science and Tactics which functions as a regular department of instruction known as the Department of Air Science. This organization is one of more than one hundred (100) whose purpose it is to select and train students who possess the character, intelligence, desire, and sense of duty to become Air Force Officers and responsible citizens.

Eligibility requirements for enrollment in the Basic Course (freshman and sophomore years) are:
a. Be a male citizen of the United States.
b. Be physically qualified under standards prescribed by the Air Force. Due allowance will be made for defects which are correctible prior to the student's eligibility for appointment as a commissioned officer.
c. Be accepted by the institution as a regularly enrolled student.
d. Be not less than 14 years of age and not have reached 23 years of age at the time of enrollment.
e. Successfully complete such general survey and screening tests as may be prescribed.
For enrollment in the Advanced Course (junior and senior years) the student must:
a. Have successfully completed the Basic Course or have had at least one year of honorable service.
b. Execute a written agreement with the government to complete the Advanced Course, contingent upon remaining in school, and to attend Advanced Summer Camp at the time specified.
c. Not have reached 27 years of age at the time of initial enrollment in the Advanced Course.
d. Have successfully completed such general survey and screening tests as may be prescribed.
e. Be selected by the Professor of Air Science and Tactics and the head of the institution.

All uniforms, texts, and training equipment required for the Air Science Course are furnished at government expense and students are paid approximately $\$ 600$ while completing the Advanced Course.

Upon graduation and completion of the Advanced Course students will be offered commissions as Second Lieutenants in the Air Force Reserve. Outstanding students will be offered lifetime careers in the Regular Air Force. Flying training is available after graduation for those who desire it and are physically qualified.

A student enrolled in Air Force ROTC is eligible for deferment from the Draft.

The above information can be summarized as follows:
Eligibility Requircments. All physically qualified freshmen who are citizens of the United States and are enrolled in the College of Engineering are eligible to enroll in the Air Force ROTC Courses in Air Installations. Veterans with one year or more of military service may be exempted from the freshman and sophomore courses (AS 11-12, AS 61-62).

Air Force ROTC Courses. The courses are established by the United States Air Force and are approved by the College as electives for all undergraduates. Field or laboratory instruction in leadership, drill, and exercise of command is included as a part of all courses to indoctrinate the student in the fundamental principles of command.

## THE NAVAL RESERVE OFFICERS' TRAINING CORPS

The NROTC Unit at Duke University affords the opportunity for selected students to qualify for commissions in the U. S. Navy and U. S. Marine Corps, or the Reserve components of these services. The Naval Science Department is a department of Trinity College, and its courses are given full credit toward the degrees awarded by Trinity College and the College of Engineering.

Navy scholarships under Public Law 729 (The Holloway Plan) are awarded each year as a result of a nation-wide test and selection procedure. Successful candidates are appointed Midshipmen, USNR, and are designated Regular NROTC Students. These Midshipmen are provided with uniforms and equipment, and receive retainer pay at the rate of $\$ 600$ per year. The scholarship covers the cost of tuition, fees, and books. The Duke University Unit normally has an input of 40 new NROTC Regulars each year. These students are normally expected to earn a degree in four academic years, and must make a training cruise each summer. On graduation they are commissioned and are obligated to serve on active duty for 15-24 months. After this period of duty they have the option of going into inactive duty in the Reserve or of requesting retention in the service as career officers.

Local selection of NROTC Contract Students is made during Freshman Orientation Week from qualified applicants. Contract Students have the status of civilians who have entered into a mutual contract with the

Navy. They do not receive the compensation or benefits paid the Regular Students, but are furnished uniforms, equipment, and Naval Science textbooks. During the last two years of the course they receive a subsistence allowance, currently 90 cents per day. They must agree to accept a Reserve commission on graduation, but may, if they so desire, request assignment to active duty and a Regular commission. If so assigned, they then enjoy all the privileges of graduating Regular Students. The Contract Students make only one summer cruise, normally for a threeweek period between the junior and senior years.

NROTC students who major in Engineering are normally commissioned general service Line Officers. However, any engineering major may request commission in the Civil Engineer Corps. Preference for such assignment will be given to those who are pursuing a course leading to a degree in Civil Engineering. The selection of CEC candidates is made during the fourth semester, and a summer surveying session will be substituted for the regular summer cruise just prior to the junior year.

There are certain minimum reguirements in mathematics, physics, and English for officer candidates. A student who follows any of the NROTCEngineering curricula will automatically complete all of these requirements. However, he must take in addition such instruction in swimming as will enable him to qualify as First Class Swimmer. These requirements are summarized below.

Naval Science Requircment: 19 s.h. for Naval Officer Candidates. 24 s.h. for Marine Corps Officer Candidates.

University Course Requirement: Completion of course requirements to qualify for the baccalaureate degree, or higher. These courses must include Mathematics 6, and Physics 1, 2 or 51, 52, to be completed by the end of the sophomore year. Plysical training must be taken in accordance with University requirements, and each student must include such instruction in swimming as will enable him to qualify as a First Class Swimmer.

Summer Training Requirement: Regular NROTC students must participate in three periods of training on board ship or at Naval Stations. Contract students are required to take one training cruise of three weeks duration, normally between the junior and senior years.

## GENERAL REGULATIONS

## ADMISSION TO THE COLLEGE OF ENGINEERING

Admission to the College of Engineering of Duke University is on a selective basis, dependent upon the ability, attainment, and character of the applicant. No student is admitted until the Committee on Admissions has received his scholastic record from school or college, a certificate of vaccination and of good health, and satisfactory evidence of sood character and ability. Prospective students and relatives are invited to visit the University and the College of Engineering in particular. This would be adrantageous to the applicant. since it would enable him to acquaint himself with the facilities of the University and to discuss possible courses of study.

Certain days are announced in the University Calendar each year for the registration, classification, and sectioning of students. Those students who are admitted later than the dates announced must pay to the Treasurer $\$ 5.00$ additional for the privilege of matriculating.

All correspondence relating to admission of men should be addressed to the Secretary of Duke Unizersity, Duke Station, Durham, I. C.

## GENERAL REQUIREMENTS

An applicant for admission to the Freshman Class in engineering must have completed at least fifteen units of preparatory work, partly in required and partly in elective subjects. A unit represents a year of work in a subject in an accredited secondary school, provided the work done in that subject is approximately one fourth of the amual amount of work regularly required in the school.

The subjects in which this credit may be offered and the maximum amount of credit acceptable in each subject are given in the following table:


For a detailed explanation of the units in the table above, see the definitions as set forth by the Southern Association of Colleges and Seconslary Schools and other regional associations.

## ADMISSION BY CERTIFICATE

Applicants able to submit certificates of proficiency from accredited schools in subjects accepted for admission to the Freshman Class will be admitted without examination. These certificates must be made out properly on the regular blanks furnished by the University, signed by the principal of the school from which the applicant comes, and presented before or at the opening of the academic year. The applicant must have completed the course of the school from which he comes.

## Required Units

Ten of the fifteen units required for admission must come from the following list of required units.
English ................................................................. . . . 3 units
*A Foreign Language ................................................... 2 units
Physical Science ........................................................ 1 unit
History . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 unit
Algebra .................................................................. $11 / 2$ units
Plane Geometry ........................................................ . . . . 1 unit
**Solid Geometry ........................................................ . . $1 / 2$ unit

## Elective Units

In addition to the above required units, sufficient elective units must be offered to make a total of fifteen. It is recommended that these electives be chosen from the following list:


## ADMISSION BY EXAMINATION

Students who present fifteen units for admission from schools not accredited by the University, and students who present the proper units but whose grades are not acceptable, are required to validate their units by entrance examinations in English and in mathematics, and such other tests as the University may prescribe, including the test required by the North Carolina College Conference.

## ADMISSION TO ADVANCED STANDING

Students may be admitted to advanced standing from other approved institutions under the following conditions: all applicants must have fulfilled the equivalent of the requirements for admission to the Freshman Class, must present official certificates of all work done in other institu-

[^4]tions, and have honorable dismissal from the institutions they previously attended.

Applicants for advanced standing should present, so far as possible, subjects corresponding to those required at Duke University. Students admitted to advanced standing may not, during their first semester, elect more than the minimum number of hours required of the class which they enter except by permission of the Dean of Engineering.

Students who have transferred from other colleges must, in order to make their provisional classification final, pass during their first year of residence not less than the equivalent of four year-courses with an average grade of C or higher.

The date for the registration and classification of students with advanced standing from other institutions is announced in the University Calendar. Students who are admitted later than this date are required to pay to the Treasurer $\$ 5.00$ additional for the privilege of matriculating.

## FRESHMAN WEEK

The week immediately preceding the opening of college is set aside for the induction of freshmen. During this period health examinations, psychological tests, and placement tests in English and mathematics are given. Sectioning in these two subjects is based on the grade made on the placement tests. The freshmen are divided into groups for instruction in the use of the library, in the regulations of the student body, and in all matters pertaining to the adjustment of the individual to a new environment. Attendance upon these exercises is required of all freshmen.

## SPECIAL STUDENTS

Students of mature age not fully prepared to enter the Freshman Class may be admitted as special students and allowed to enroll for such work as they are prepared to carry. Further, they are required to take fifteen hours of classwork a week.

## GENERAL ACADEMIC REGULATIONS

The College of Engineering operates on the two-semester plan: the autumn semester and the spring semester begin and close in accordance with the published calendar of this bulletin.

It is important that all students be present on the first day of the session; those who are late incur the penalties described in the Undergraduate Bulletin under the topics "Admission to College" and "Course Cards." Students who enter after the beginning of the semester are marked absent from classes to which they have been assigned, and these absences carry the same penalty as other absences.

## DEFINITION OF CREDIT

The unit of credit used in computing class standing is the semester hour, which signifies one recitation a week throughout the semester. Three hours of laboratory work are equivalent to one hour of classwork.

Two semesters of seventeen weeks each constitute the academic year.

## EXPLANATION OF QUALITY-POINT SYSTEM

The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are the points earned by a student on the basis of his grades: for an A three quality points per semester hour; for a B two quality points per semester hour; for a C one quality point per semester hour: for a $D$ no quality points. A grade of F carries neither semester hours nor quality points. Credit for 148 semester hours and at least 148 quality points is required for the degree of Bachelor of Science in Civil, Electrical, or Mechanical Engineering.

## RESIDENCE REQUIREMENT

All candidates for engineering degrees are required to take the work of the senior year (a minimum of 36 semester hours) in residence. Senior work is defined as comprising, in each curriculum, those courses outlined in the Bulletin for the senior year of that curriculum.

## SENIOR WORK

A candidate for the Bachelor of Science degree in any one of the branches of engineering, regardless of his average grade in preceding years, must, in order to be eligible for graduation, complete his senior work as defined in the preceding paragraph with a minimum average, grade of C .

## ASSEMBLY AND CLASS MEETINGS

Regular meetings of the Sophomore, Junior, and Senior Classes of the College of Engineering are held according to their respective schedules. Meetings of the Freshman Class are held weekly.

Attendance upon these class meetings is compulsory.

## OTHER REGULATIONS

See the Undcrgraduatc Bullctin for the regulations concerning class attendance and absences, grades, exclusion for failure, scholastic requirements for participation in athletic and other organizations, etc.

## THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING

The studies in the College of Engineering are designed for students who are preparing for civil, electrical, or mechanical engineering as a profession. These studies lead to the following degrees: B.S. in C.E., B.S. in E.E., and B.S. in M.E. All curricula of the College are fully accredited by the Engineers' Council for Professional Development.

## UNIFORM REQUIREMENTS

Each of these degrees requires 148 semester hours of work, four of which are in physical education. A student must have at least a C average both for the entire program and in his senior year.

Besides the courses in their special fields, the three departments of the College-the Civil, the Electrical, and the Mechanical-require (1) a uniform program during the student's first year and (2) supplementary work in general courses throughout his last three years. The general courses are listed below. The special program of each department is given in the section of this Bulletin devoted to the specific department.

Air Force Reserve Officers' Training Corps and Naval Reserve Officers' Training Corps students who are majoring in engineering take the standard programs of their departments of specialization with certain exceptions that are noted under the respective departments.

## GENERAL COURSES OF INSTRUCTION REQUIRED NONENGINEERING SUBJECTS

Chem. 1-2. General Inorganic Chemistry.-Lectures, recitations, and laboratory work on the elementary principles of chemistry and on the occurrence, preparation, properties, and uses of the elements and their compounds. One lecture, two recitations, and three laboratory hours, throughout the year. 8 s.h.

Econ. 51-52. Principles of Economics.-For sophomores. 6 s.h.
Engl. 1-2. English Composition.-All freshmen are required to take course 1 and course 2. 6 s.h.

Engl. E93. Advanced Composition for Engineers.-Designed for achieving effectiveness in writing reports, descriptions, technical investigations, etc. Open to juniors and seniors. 3 s.h.

Engl. 151. Essentials of Public Speaking.-A basic course in public speaking designed to give the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of speech materials and to oral presentation. 3 s.h.

Hist. E1-2. The United States in the World Today.-This course is designed for students in the College of Engineering. Topics treated in the first semester are: the rise of national states in Western Europe and other circumstances attending the discovery and settlement of the New World; the foundation of American institutions; the establishment of the Federal Re-
public; the frontier, the westward movement, and contemporary international developments; the Civil War; the growth of industry and its influence on society; the Spanish-American War and the emergence of the United States as a world power. In the second semester the emphasis is on the growing interdependence of the Western Nations in the twentieth century; their influence throughout the world; the participation of the United States in the World Wars, and the resultant problems of today. 6 s.h.

Math. 5. College Algebra.-Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, permutations and combinations, probability, determinants, partial fractions. This course and Mathematics 2 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h.

Math. 6. Plane Trigonometry.-Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations, complex numbers. This course and Mathematics 5 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h.

Math. 50. Plane Analytic Geometry.-Rectangular and polar coordinates, loci, straight lines, conic sections. This course and Mathematics 51 may be taken concurrently. Prerequisites: Mathematics 5 and 6.3 s.h.

Math. 51. Calculus I.-Differentiation of elementary functions, curve tracing, maxima and minima, motion. Must be preceded or accompanied by Mathematics 50.3 s.h.

Math. 52. Calculus II.-Integration of elementary functions, areas, solids of revolution, length of arc, surfaces of revolution, centroids, moments of inertia, pressure, curvature, indeterminate forms. Prerequisite: Mathematics 51. 3 s.h.

Math. 53. Calculus III.-Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 3 s.h.

Math. 131. Elementary Differential Equations.-Solution of elementary types; formation and integration of equations arising in applications. Prerequisite: Mathematics 52. 3 s.h.

Phys. 51-52. General Physics.-This course treats the basic principles of general physics in a nore quantitative manner than Physics 1-2. It is designed for sophomores and juniors and meets in a thorough way the requirements for entrance into the study of either medicine or engineering and is well suited for the general science student. A limited number of freshmen who present physics for entrance and who are taking the required mathematics concurrently may be admitted by permission of the instructor. This course is not open for credit for students who have taken Physics 1-2. Four lecturerecitations and one three-hour laboratory period each week. Prerequisite: Mathematics $2-5$ or equivalent (Mathematics 5 may be taken concurrently). 10 s.h.

## AIR SCIENCE COURSES

The following courses are required of students in the Air Force Reserve Officers' Training Corps, as outlined in the various curricula:

AS 11-12. Principles of National Defense and Introduction to Aeronau-tics.-This is an introductory course in the physical structure and functions of the armed forces and the fundamentals of aeronautics. During the first semester the student deals with the national military policies, organization of the armed forces and the influence of geographical and historical problems. The second semester is devoted to maps and aerial photographs, military psychology and personnel management, and aeronautics. 6 s.h.

AS 61-62. Applied Air Power and Elements of Air Installations.-During the first semester the principles of military logistics and administration, military teaching methods, and air force management are taught. The second semester is allotted to air operations and the functions and organization of the air installations office. Prerequisites: AS 11-12 or equivalent. 6 s.h.

AS 111-112. Air Installations and Maintenance Engineering.-This is the first year of the advanced course in air science for engineering students and is applied to specialized instruction in the field of installation and maintenance engineering. The first semester covers the construction of bases and landing fields, roads, railroads and sewage disposal plants; the disposal of refuse and the control of insects and rodents. The second semester is allotted to fire prevention and crash rescue, electrical facilities, water supply, and preventive maintenance. Prerequisites: AS 11-12, 61-62 or equivalent. 8 s.h.

AS 211-212. Advanced Air Installations.-Not offered in 1950-1951. Prerequisites: AS 11-12, 61-62 or equivalent, AS 111-112. 2 s.h.

## NAVAL SCIENCE COURSES

The following courses are required of students in the Naval Reserve Officers' Training Corps, as outlined in the various curricula.
(Standardized titles and designators for courses are established by the Bureau of Naval Persomel for use at the 52 NROTC Institutions. The first digit indicates the year of the course; the second digit indicates whether semester or quarter ( 0 for semester, 1 for quarter) ; the third digit indicates the semester or quarter of school year in which offered. Specialized courses for Marine Corps officer candidates are indicated by the letter "M" after the designator, and substitute for the basic course of the same number.)

NS-101. Naval Orientation.-Organization for national security; the naval establishment and the operating forces; naval customs, traditions. regulations; basic characteristics, capabilities, and limitations of naval vessel types; nomenclature; introduction to carrier air, surface. undersea, and amphibious warfare; basic leadership. 3 s.h.

NS-102. Naval Orientation.-American sea power since 1775 ; the elements of sea power; applications of sea power in campaigns of the two World Wars; deck seamanship, rules of the nautical road, naval formations and maneuvers. 3 s.h.

NS-201. Naval Weapons.-Evolution of naval ordnance ; types and properties of explosives; principles in design and assembly of guns, ammunition, fuses; automatic weapons; basic designs in torpedoes, mines, anti-submarine devices, rockets; principles in the control of fire of naval weapons against air, surface, and underwater targets; nuclear explosives. 3 s.h.

NS-202. Naval Weapons.-The elements in the problem of control of naval gun fire, the principles of mechanical and electronic solution of the problems; basic principles, capabilities and limitations of radar, sonar, and guided missiles; shore bombardment. 3 s.h.

NS-301. Navigation.-Magnetic and gyro compass: principles of chart construction; the sailings and dead reckoning; piloting; electronic and radar navigation; relative motion: rules of the nautical road; basis aerology and meteorology; maneuvering in storm areas. 3 s.h.

NS-302. Navigation.-Nautical astronomy including a study of the actual and apparent motion of earth, celestial coordinates, time systems, solutions of the astronomical triangle; solutions of observations for lines of position; use of the sextant; identification of stars and planets; complete day's work in practical navigation. 3 s.h.

NS-302M. History of the Art of War.-The development of tactics and material as shown by decisive battles of history; historical causes and effects of wars; the development of United States military policy; total war; briefs of campaigns of World War II. 3 s.h.

NS-401E. Naval Machinery, Ship Stability.-Applications of standard steam, electrical, and internal combustion machinery for marine propulsion and ship operation; the principles of ship stability and buoyancy in the practice of ship design and in the practice of damage control. 1 s.h.

NS-401 M. United States Military History and Policy.-The development of U. S. military policy, the tactics of U. S. forces in selected battles, current policy and functions of the armed services. 3 s.h.

NS-402M. Amphibious Warfare.-History of amphibious warfare and its development, principles of amphibious techniques, and applications of these principles in selected examples. 3 s.h.

## GENERAL ENGINEERING SUBJECTS

1. Engineering Drawing.-The study of mechanical drawing with emphasis on third angle projection, pictorial drawing, dimensioning, working drawings, pencil and ink techniques. 2 s.h.
2. Descriptive Geometry.-A study of drawing board geometry with emphasis on line and plane problems, developments, and intersections. Further emphasis on drawing techniques. Prerequisite: GE 1. 2 s.h.
3. Statics.-Concurrent forces, parallel forces, nonconcurrent and nonparallel forces, centroids, friction, moment of inertia. Prerequisites: GE 1, GE 2. Mathematics 52 concurrent. 3 s.h.
4. Dynamics.-Translation, rotation, work, energy, and momentum. Prerequisites: GE 57 and Mathematics 52. 3 s.h.
5. *Construction Methods.-Principles of scientific management as set forth by Gilbreth and Taylor; selection of materials and accumulation of cost data; use of modern equipment and methods; job design, description, selection and placement of persomel. Prerequisite: Junior standing. 3 s.h.
6. *Motion and Time Study.-Fundamentals of stop-watch time study; effort (tempo) rating; uses of time study, and relationships between time study, motion study, and wage incentives; micromotion study; motion economy principles and their applications; standard data-derivation and application. Prerequisite: Junior standing. 3 s.h.
7. Strength of Materials.-Elastic bodies under stress ; flexure of simple, overhanging, fixed, and continuous beams; columns; combined stresses, etc. For Civil Enginecring students, the laboratory work is included in course CE 118. Other students should take course GE 109 for laboratory. Prerequisite: GE 57. 3 s.h.
8. Strength of Materials Laboratory.-Concurrent with course GE 107. 1 s.h. Either semester.
9. Hydraulics.-Hydrostatics; flow of water through orifices, weirs, pipes, and open channels; general principles of water wheels and turbines. Prerequisite: GE 57.3 s.h. Either semester.

* Offered only upon sufficient demand; enrollment limited.


# DEPARTMENT OF CIVIL ENGINEERING 

Harold Crusius Bird, Chairman<br>Professor<br>William Holland Hall. Professor<br>William Brewster Snow Associate Professor<br>Howard N. Haines<br>Assistant Professor<br>Ralph E. Lewis Assistant Professor<br>Aubrey E. Palmer Assistant Professor<br>James Wesley Williams Assistant Professor<br>Chandler Wilcox Brown Instructor<br>Jesse Holland Wilder Instructor

Roger G. Davis
Visiting Instructor (Part-time)

The work of a civil engineer may be divided into four major fields: sanitation-dealing with water works, sewerage systems, and garbage disposal; hydraulics-dealing with flood control, river improvements, irrigation, drainage, and water power; transportation-dealing with railroads, highways, airports, waterways, park systems, traffic control, and city planning; structures-dealing with bridges, buildings, foundations, dams, tunnels, tanks, bins, and various industrial structures. The concern of a civil engineer is primarily with design and construction, although often his responsibility includes maintenance. His undergraduate education comprises scientific, technical, civic, and cultural subjects. In order that he may become qualified to assume responsible charge of engineering work, he should supplement this instruction with progressive study after he graduates and while he is securing his practical experience.

The various facilities of the department are described below.

## HIGHWAY MATERIALS

Complete equipment is available for the preparation and routine testing of aggregates, cement, and bituminous materials. There is also a Hubbard stability machine for additional tests.

## SANITARY ENGINEERING

In the sanitary laboratory there is complete equipment for performing the physical, chemical, bacteriological, and microscopic tests as outlined by the American Public Health Association. Different types of water current meters are available for work in stream gauging.

## SURVEYING

The department has an unusually modern and representative collection of transits, levels, plane tables, accessory equipment, as well as a precise level and theodolite.


## CIVIL ENGINEERING DRAFTING ROOM

A special drawing room has been set aside for upperclassmen in civil engineering. The room is specially illuminated with fluorescent lights and has properly conditioned two-toned walls to relieve eye strain. Filing cabinets for storing each student's equipment, eight large-sized universal drafting machines, numerous smaller-sized ones, planimeters, curves, and other accessories are readily available.

## STRESS LABORATORIES

For advanced instruction in stress analysis there are various polariscopes with facilities for taking and developing pictures, large-sized Begg's deformeter, loading frames, and miscellaneous tools for preparing accurate models for testing. Electric calculating machines are to be found in an adjoining room so that the students may more readily compare calculated and experimental results.

## CEMENT AND CONCRETE TESTING

For the testing of cement, fine and coarse aggregates, and concrete, two rooms and an adjoining closet are provided, the closet being equipped with temperature and moisture control. In addition to the small accessories there is an automatic shot-testing briquette machine, flow table, Ro-tap shaker, steam baths, unit weight measures, capping devices, special equipment for making the flexural test, as well as a new 300,000 -pound hydraulic compression machine.

## SOIL TESTING

For the classification of soils there is standard equipment for finding the liquid limit, plastic limit, shrinkage limit, field moisture equivalent, centrifuge moisture equivalent, specific gravity, sieve analysis using Rotap shaker, and hydrometer analysis using a constant temperature bath. In making foundation studies. permeability is measured by constant and variable head permeameters and by horizontal capillarity; shearing values are determined by unconfined compression tests, four modern shear machines as well as by two triaxial shear machines; bearings values are found by the Proctor and California bearing tests; consolidation and settlement forecasts are made from data secured on three consolidation machines. New laboratory tables will accommodate twenty students. Drying racks, electric ovens, and other accessories of the latest types are to be found in this laboratory. Adjacent to the main laboratory are two smaller rooms available for research work in soils.

## MATERIALS LABORATORY

This laboratory is equipped to give instruction in the basic principles of stress and strain and for the testing of structural members. Its facilities are adequate for both graduate and undergraduate instruction. Included in this laboratory are three universal testing machines with capacities from 5.000 to 150,000 pounds; various hardness testers; machines for torsion, fatigue, and impact; calibration apparatus; and a variety of modern strain gauges of direct acting mechanical and electricresistance types.

## PROGRAM OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING



For Air Force ROTC students AS 61 (3 s.h.) and AS 62 (3 s.h.) are substituted for Econ 51-52 above.

For Naval ROTC students NS 201 (3 s.h.) and NS 202 (3 s.h.) are substituted for Econ 51-52 above.

Junior Year

$18 \quad 18$
For Air Force ROTC students AS 111 ( 4 s.h.) and AE 112 ( 4 s.h) are substituted for Engl 93 and Eng1 151 above.

For Naval ROTC students NS 301 (3 s.h.) and NS 302 (3 s.h) are substituted for Engl 93 and Engl 151 above.

Scuior Year
FIRST SEMESTER SECOND SEMESTER

|  | S.H. |  | S.H. |
| :---: | :---: | :---: | :---: |
| CE 123 | Water Supply .......... 4 | CE 124 | Water Purification |
| CE 135 | Soils .................... 3 | CE 116 | Highways |
| CE 133 | Reinforced Concrete .... 4 | CE 140 | Indeterminate Structures . 3 |
| ME 103 | Heat Power ............ 3 | CE $14+$ | Projects |
| ME 115 | Mech. Eng. Laboratory .. 1 | ME 104 | Heat Power ............ 3 |
|  | Elective (Non- | ME 116 | Mech. Eng. Laboratory . . 1 |
|  | Technical) ......... 3 |  | Elective (Non- |
|  |  |  | Technical) |
|  | 18 |  | 18 |

For Air Force ROTC students AS 211 (1 s.h.) is added to the first semester program and AS 212 ( 1 s.h.) is added to the second semester program above.

For Naval ROTC students who are candidates for a Navy commission NS 401E ( $1 \mathrm{~s} . \mathrm{h}$.) is added to the second semester program.

For Naval ROTC students who are candidates for a Marine Corps commission NS 401 M ( 3 s.h.) and NS 402 M ( 3 s.h.) are substituted for the two non-technical electives above.

## COURSES OF INSTRUCTION

61. Plane Surveying.-Use of instruments; transit, stadia and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: GE 1 and Math 6.4 s.h.

Mr. Brown
62. Advanced Surveying.-Simple triangulation; topographic surveying using stadia and plane table; laying out and division of land; public land system: calculations; grading plans and quantities; determination of azimuth by H.O. 211. Prerequisite: CE 61. 4 s.h.

Mr. Brown
108. *Advanced Strength of Materials.-Applications of Mohr's circle, deflections, and energy of strain to advanced problems. Prerequisite: GE 107. 3 s.h. Mr. Williams
S110. Plane Surveying.-The equivalent of CE 61 given especially for students in forestry. See Bulletin of Summer Session. 4 s.h. Staff
113. Route Surveying.-Thorough drill in the calculation and laying out of simple, compound, and easement curves; widening of curves; vertical curves; setting slope stakes; ordinary earthwork computations and mass diagrams. Prerequisite: CE 61.3 s.h. Mr. Williams
116. Highway Engineering.-Location, design, construction and maintenance of highways and city streets ; soil stabilization; traffic studies; economics of planning and design. Prerequisites: CE 113, CE 135. 3 s.h.

Mr. Williams
118. Materials of Engineering.-Study and testing of materials commonly used in civil engineering; proportioning concrete. Prerequisite: GE 107 or concurrent. 3 s.h.

Mr. Willitams
120. *Engineering Statistics.-Statistical methods applied to engineering problems. Typical engineering data analyzed to illustrate arithmetically and geometrically normal distributions; binomial distribution; Poisson's distribution. Testing data of engineering materials and the use of student's distribution. Sequential analysis and control of production quality. 3 s.h.

Mr. Snow
121. *Hydrology.-Fundamentals of meteorology; precipitation; evaporation. Ground water development. Stream flow and stream gaging. Hydro-

* Offered only upon sufficient demand; enrollment limited.
graph analysis. Flood control. Field trips to be arranged. Prerequisite: GE 128. 3 s.h.

Mr. Snow
123. Water Supply and Sewage.-Statistical analysis of rainfall and runoff records; population estimation; analysis of the yield of watersheds and storage requirement ; design of water distribution systems; design of sanitary and storm sewerage systems. Prerequisite: GE 128. 4 s.h. Mr. Snow
124. Water Purification and Sewage Treatment.-Chemical and bacteriological analysis of water and sewage effluents; design of water purification treatment systems; design of sewage treatment plants. Prerequisite: course CE 123. 3 s.h.

Mr. Snow
128. *Industrial Water Supplies.-Water quality for industrial uses Analytical techniques and interpretation of results. Boiler feed water requirements ; softening; ion exchange; deaeration, priming; foaming; corrosion; embrittlement. Control of treatment processes. Prerequisite: Chemistry 1-2. 3 s.h.

Mr. Snow
129-130. *Elementary Structures.-Stresses in beams and trusses for fixed and moving loads. Deflection of beams and trusses. Design of tension, compression, and flexural members; comnections; and plate girders. Design of reinforced concrete beams, slabs, columns, footings, and retaining walls. (For students not majoring in Structural Engineering.) Prerequisite: GE 107. 6 s.h.

Mr. Palmer
131. Structures.-Analysis and Elementary Design.-Stresses in roofs, parallel and inclined chord bridges, including sub-divided panels, by algebraic and graphic methods under all conditions of loading; shear and moments in frames and bents; influence lines; Williot diagram. Structural drafting; details in steel and wood; methods of fabrication and erection. Prerequisites: GE 57, 107. 5 s.h.

Mr. Palmer
132. Structures.-Design.-Tension, compression, flexural members, end posts, eccentric connections, unsymmetrical bending; riveted and welded plate girders; trusses and office building frames; wind analysis. Design and detail drawings. Prerequisite: CE 131. 5 s.h.

Mr. Palmer
133. Reinforced Concrete.-Theory and design of reinforced concrete beams, slabs, and columns including eccentric loads; footings; retaining walls. Prerequisite: GE 107. 4 s.h.

Mr. Bird
135. Soil Mechanics.-Identification and classification; flow nets; frost action; stability of foundations, cuts and embankments, and retaining walls: settlement. Laboratory includes identification, permeability, shear, unconfined compression, consolidation and compaction tests. Prerequisite: GE 107. 3 s.h. Mr. Bird
137-138. *Seminar.-Students are required to make reports and to talk on current engineering literature or on such other topics as may be assigned. 2 s.h.

Staff
140. Indeterminate Structures.-Application of least work, slope deflection, moment distribution, and column analogy. Analytic, graphic, and experimental methods are used. Prerequisites: CE 131, CE 133. 3 s.h. Mr. Bird
142. *Hydraulic Engineering.-Statical and dynamical principles of fluids applied to specific engineering problems. Effects of gravity, viscosity, compressibility, and surface tension on fluid motion in closed conduits and open channels; surface and form resistance; dimensional analysis and theory of models. Non-uniform flow in open channels. Hydraulic jump, backwater curves. Hydraulic problems of flood control, flood routing. Dam design. Prerequisite: GE 128 or ME 105. 3 s.h.

Mr. Williams
143-144. Projects in Civil Enginering.-This course may be assigned by the Chairman of the Department to certain seniors who have shown an aptitude for research in one distinct field of civil engineering, in which case it may be substituted for certain general civil engineering courses. $2-6$ s.h.. Staff

[^5]
# DEPARTMENT OF ELECTRICAL ENGINEERING 

Walter James Seeley, Chairman<br>Professor

| Otto Meier, Jr. | Charles Rowe Vail |
| :---: | :---: |
| Associate Profcssor | Assistant Profcssor |
| Frank Nicholas Egerton | Marvin Thomas Hatley, Jr. |
| Assistant Professor | Instructor |
| Edward K. Kraybill | Vance Bacon Martin |
| Assistant Professor | Instructor |
| Grimes Gibbons Slaughter |  |
| Instructor |  |

The field of electrical engineering enters into every form of industry and public service where power is utilized, intelligence is transmitted, and precise control is exercised over physical, chemical, or mechanical operations. The field of electrical engineering includes the generation, transmission, distribution, and utilization of electric power; communications, embracing telegraphy, telephony, radio, television, and radar; illumination; electrical transportation; and industrial processes and their control. In any one of these varied fields the electrical engineer may engage in work which ranges from highly technical and specialized research and design to manufacturing, maintenance, sales, and administration. As a result of these broad professional demands, the curriculum in electrical engineering has been designed to provide a solid foundation of basic science and fundamental training in the field of electricity, as well as to provide the introduction to humanistic studies which is required of all engineering students at Duke University.

The laboratory facilities of the Department of Electrical Engineering are distributed among various specialized rooms of the electrical engineering wing of the Engineering Building. These facilities are described below.

## THE ELECTRIC CIRCUITS LABORATORY

This laboratory is equipped with all necessary instruments and devices for carrying out experiments on direct-current and power-frequency alter-nating-current electric circuits and magnetic circuits. Oscillographs are provided for viewing and photographing both steady-state sinusoidal and non-sinusoidal waves and transients. A harmonic generator permits the synthesis of non-sinusoidal waves in both single-phase and polyphase circuits.


## THE ELECTRICAL MEASUREMENTS LABORATORY

Facilities are provided in this laboratory for studying the principles and techniques of measuring electrical quantities throughout the entire frequency spectrum, from direct current and power frequencies through audio and radio frequencies. Instruments of both the indicating and recording types, d-c and a-c bridges, and associated apparatus are included.

## THE ELECTRONICS LABORATORY

The equipment of this laboratory makes possible studies of the physical behavior of high-vacuum and gas-filled electronic tubes and their associated circuits. Included are power-supply units, vacuum-tube voltmeters, oscillators, amplifiers, sweep-circuit generators, cathode-ray oscilloscopes, and a wide variety of electronic tubes.

## THE ELECTRIC MACHINERY LABORATORY

The electric machinery laboratory contains a wide variety of directcurrent and single-phase and polyphase alternating-current electric machines, and associated apparatus for loading and testing these machines. Equipment includes a number of a-c to d-c and d-c to d-c motor-generator sets, a sine-wave generator, a synchronous converter, an ignitron rectifier, a phase-displacement dynamometer, numerous constant-potential transformers, a constant-current transformer, a high-current testing transformer, induction regulators, a variety of representative d-c and a-c motors and generators, a large selection of fractional-horsepower motors, numerous loading devices, oscillographs, and complete stock of other indicating, recording, and graphic measuring instruments.

## THE COMMUNICATIONS LABORATORY

Complete equipment for the performance of experiments and for all but the most precise measurements in the audio and radio-frequency ranges is provided in this laboratory. Typical of the experiments performed by students with this equipment are: harmonic generation and wave analysis, circuit elements at audio and radio frequencies, squarewave testing, transmission characteristics of an artificial telephone line, impedance matching at audio and radio frequencies, modulation systems, detectors, generation and amplification of audio and radio frequencies, frequency measurements, field intensity measurements, and antenna radiation patterns.

## THE ULTRA-HIGH FREQUENCY LABORATORY

This laboratory is equipped to study the action of circuits and systems in the frequency range from 100 to 5,000 megacycles. Typical experiments are performed in the study of resonant lines, stub-matching sections, wave guides, resonant cavities, klystrons, magnetrons, horn radiators, parabolic reflectors, etc.

## THE ANECHOIC LABORATORY

As the name implies, the anechoic laboratory is a non-echoing or sound-proofed room in which experiments and measurements can be per-
formed on microphones, loudspeakers, and associated acoustical devices. A Western Electric sound level meter makes possible the measurement of the reverberation characteristics of rooms and the absorbing qualities of various materials. At present the experiments with acoustical systems are performed in conjunction with the communications laboratory course. The facilities for a more complete treatment of acoustics are available when the demand arises.

## THE INDUSTRIAL CONTROL LABORATORY

The industrial control laboratory contains typical electromagnetic and electronic industrial control apparatus, and associated testing equipment. Included are a thyratron-controlled resistance welder, industrial X-ray equipment, an electrostatic air cleaner, a general-purpose timer, a lightsensitive photo-troller, an automatic d-c motor speed regulator, an electronic adjustable-speed drive, a high-frequency industrial electronic heating unit, and a variety of servo-mechanism system components.

## THE HIGH-VOLTAGE LABORATORY

Housed in a special room, this laboratory contains equipment for 60 -cycle testing up to 100,000 volts, and a surge ("artificial lightning") generator for impulse testing up to 500,000 volts. Auxiliary equipment provides for the control and measurement of the observed phenomena.

## THE STANDARDIZING LABORATORY

This room is provided with standard instruments for the purpose of checking and calibrating instruments used in the other laboratories. Standard cells, potentiometers, voltmeters, ammeters, wattmeters, watthour meters, shunts, bridges, and equipment for obtaining standard time and frequency from U. S. Bureau of Standards signals are included.

## AMATEUR RADIO STATION W4AHY

The Engineers' Radio Association is licensed by the Federal Communications Commission to operate and maintain amateur radio station W4AHY. The station is equipped with a 125 -watt 80 -meter phone and C. W. transmitter, a 150 -watt 20 -meter phone and C. W. transmitter, a Collins 30FXB 100 -watt 10 -meter phone transmitter, Hammarlund Pro and HQ129 receivers, and associated testing and operating equipment. The facilities of the station are used by licensed students to gain practical experience in short wave radio and to communicate with other amateur radio operators the world over.

## THE PHOTOGRAPHIC DARK ROOM

Adjoining the industrial control laboratory is a photographic dark room maintained by the Department of Electrical Engineering to meet its specialized needs.

## THE COMPUTATION AND BRIEFING ROOMS

On each floor of the electrical engineering wing adjacent to the laboratories, there is a laboratory computation and briefing room.

## PROGRAM OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

\author{

Freshman lear <br> FIRST SEMESTER SECOND SEMESTER <br> | S.H. |  |  |  | S.H. |
| :---: | :---: | :---: | :---: | :---: |
| Math 5 | College Algebra ........ 3 | Math 50 | Analytic Geometry |  |
| Math 6 | Trigonometry .......... 3 | Math 51 | Calculus I | 3 |
| Chem 1 | Chemistry ............. 4 | Chem 2 | Chemistry |  |
| Engl 1 | English Composition ... 3 | Engl 2 | English Composition | 3 |
| Hist E1 | History ............... 3 | Hist E2 | History . |  |
| GE 1 | Drawing .............. 2 | GE 2 | Descriptive Geometry |  |
|  | Physical Education ..... 1 |  | Physical Education |  |
|  | 19 |  |  | 19 |

For Air Force ROTC students AS 11 (3 s.h.) is substituted for Hist E1 and AS 12 ( 3 s.h.) is substituted for Hist E2 above.

For Naval ROTC students NS 101 (3 s.h.) is substituted for Hist E1 and NS 102 (3 s.h.) is substituted for Hist E2 above.

## Sophomore Year

FIRST SEMESTER SECOND SEMESTER

|  | S.H. |  |  | S.H. |
| :---: | :---: | :---: | :---: | :---: |
| Math 52 | Calculus II ............. 3 | Math 53 | Calculus III | 3 |
| Phys 51 | Physics ................ 5 | Phys 52 | Physics |  |
| Econ 51 | Economics ............. 3 | Econ 52 | Economics | 3 |
| GE 57 | Statics ................. 3 | ME 52 | Kinetics-Mechanism | 4 |
| EE 51 | Survey of Electrical | EE 52 | Fields |  |
|  | Engineering .......... 1 |  | Physical Education |  |
| Engl 93 | Advanced Composition . 3 Physical Education ...... 1 |  |  | 19 |

For Air Force ROTC students AS 61 (3 s.h.) and AS 62 (3 s.h.) are substituted for Econ 51-52 above.

For Naval ROTC students NS 201 (3 s.h.) and NS 202 (3 s.h.) are substituted for Econ 51-52 above.

## Junior Year

FIRST SEMESTER
SECOND SEMESTER
S.H.


For Air Force ROTC students AS 111 (4 s.h.) and AS 112 (4 s.h.) are substituted for GE 128 and Engl 151 above.

For Naval ROTC students NS 301 (3 s.h.) and NS 302 (3 s.h.) are substituted for GE 128 and Engl 151 above.

| Senior Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | FIRST SEMESTER |  | SECOND SEMESTER |  |
|  | S.H. |  |  | S.H. |
| EE 257 | A-C Machinery . . . . . . . 3 | EE 258 | A-C Machinery | 3 |
| EE 163 | Machinery Laboratory ... 1 | EE 164 | Machinery Laboratory | . 1 |
| EE 261 | Communications ........ 4 | EE 262 | Communications ..... | . 4 |
| EE 165 | Seminar . . . . . . . . . . . . . 1 | EE 165 | Seminar ...... | . 1 |
| EE 159 | Transmission ........... 3 | GE 107 | Strength of Materials | . 3 |
| EE | Elective . ................ 3 | GE 109 | Materials Laboratory . | . 1 |
|  | Elective (Non- | EE | Elective | . 2 |
|  | Technical) .............. 3 |  | Elective (Non- |  |
|  |  |  | Technical) | 3 |
|  | 18 |  |  | - |

For Air Force ROTC students AS 211 (1 s.h.) is added to the first semester program and AS 212 ( 1 s.h.) is added to the second semester program above.

For Naval ROTC students who are candidates for a Navy commission NS 401 E ( $1 \mathrm{~s} . \mathrm{h}$. ) is added to the program of one of the two semesters, and GE 128 ( 3 s.h.) and Engl 151 (3 s.h.) are substituted for the two non-technical electives above.

For Naval ROTC students who are candidates for a Marine Corps commission NS 401 M ( 3 s.h.) and NS 402 M ( $3 \mathrm{~s} . \mathrm{h}$.) are substituted for the two non-technical electives above.

## COURSES OF INSTRUCTION

51. Survey of Electrical Engineering.-A course designed to give the student a general survey of the engineering profession, to define the scope of activities of the electrical engineer, and to provide an introduction to engineering problems. One two-hour computation. 1 s.h.

Mr. Kraybill
52. Electric and Magnetic Fields.-An introductory course covering a mathematical and physical analysis of energy relations in electrostatic and magnetostatic fields; resistance, capacitance and inductance of systems of conductors; systems of electric and magnetic units. Two recitations and one two-hour computation. Prerequisites: EE 51, Mathematics 52. Physics 52, Mathematics 53 concurrently. 3 s.h.

Mr. Vail
101-102. Circuits in Electrical Engineering.-A two-semester course covering methods of electric and magnetic circuit analysis applicable in all branches of electrical engineering; alternating and direct currents; the algebra of vectors and complex quantities; net works; nonsinusoidal waves; coupled circuits; transients; polyphase circuits; symmetrical components. Prerequisite: EE 52. Mathematics 131 concurrently. 6 s.h.

Mr. Vail
105. Electrical Measurements.-A course covering direct-current and lowfrequency measurements; the theory, calibration, and use of laboratory standards, potentiometers, instrument transformers, and power and energy measuring apparatus; and audio-frequency measurements of impedance, current and potential. Three class sessions and one three-hour laboratory. Prerequisite: EE 52. Mathematics 131 and EE 101 concurrently. 4 s.h.

Mr. Slaughter
106. Electron Tubes and Circuits.-A course covering electronic emission, static and dynamic tube characteristics, rectification, glow-discharge tubes, amplifiers, oscillators, and other typical circuits. Three class sessions and one threehour laboratory. Prerequisites: EE 101, EE 107. EE 102 and EE 108 concurrently. 4 s.h.

Mr. Slaughter

107-108. Circuits Laboratory.-A two-semester course designed to provide instruction in electrical laboratory techniques and in the preparation of engineering reports, and to provide experimental verification of the theory of course EE 101-102, with which it should be taken concurrently. One three-hour laboratory. 2 s.h.

Messrs. Vall and Kraybill
123. Principles of Electric Circuits.-A course designed especially for students in other branches of engineering, covering the fundamental electric units and both alternating and direct-current circuits. Three class sessions and one three-hour laboratory. Prerequisites: Mathematics 53 and Physics 52. 4 s.h.

Messrs. Kraybill, Egerton, and Martin
124. Principles of Electric Machinery.-A course designed especially for students in other branches of engineering, covering the application of the principles of course EE 123 to alternating and direct-current machinery and associated apparatus. Three class sessions and one three-hour laboratory. Prerequisite: EE 123. 4 s.h.

Messrs. Kraybill, Egerton, and Martin
148. Direct-Current Machinery.-A study of the principles which underlie the design and operation of all types of direct-current generators, motors, and associated apparatus. Prerequisites: EE 101 and EE 107. EE 102 and EE 108 concurrently. 3 s.h.

Messrs. Meier and Martin
158. *Electric-Power Stations.-A course providing a brief survey of the electric-power industry followed by a consideration of the economic and engineering features of power plant location and design, and by a study of the apparatus utilized in the generation, transmission and distribution of electric power. Prerequisites: EE 148 and ME 104, and permission of instructor. EE 257-258 concurrently. Elective for electrical majors. 3 s.h. Mr. Seeley
159. Transmission.-A development of the theory underlying the transmission of electric energy over conductors at both power and communication frequencies. Two class sessions and one two-hour computation. Prerequisites: EE 101-102, EE 105, EE 106, Mathematics 131. 3 s.h. Mr. Seeley
160. *High-Voltage Engineering.-An introductory study of high-voltage phenomena and their engineering applications: behavior of gaps and insulators upon application of power-frequency and impulse voltages; corona; properties of insulating materials; high-voltage measurements; elements of high-voltage design. Two class sessions and one three-hour laboratory. Prerequisites: EE 52, EE 101-102, EE 106, and permission of instructor. Elective for electrical majors. 3 s.h.

Mr. Vail
163-164. Electric Machinery Laboratory.-A study of the technique of testing electric machines and a thorough analysis of their performance. Concurrent with EE 257-258. One three-hour session, for two semesters. 2 s.h. Messrs. Meier and Martin
165-166. Electrical Engineering Seminar.-A course in which seniors are required to present oral reports and dissertations on material appearing in current engineering literature. Juniors may participate, but without credit. 2 s.h. Staff
170. *Fundamentals of Illumination.-A course designed to familiarize the student with some of the factors that influence seeing; to provide a working knowledge of lighting language, sources, and measuring techniques; and to acquaint the student with the basic factors involved in recommended lighting practice. Two class sessions and one two-hour computation. Prerequisites: EE 101-102, EE 105, EE 106, and permission of instructor. Elective for electrical majors. 3 s.h. Mr. Kraybill
173-174. *Projects in Electrical Engineering.-A course which may be undertaken only by seniors who show special aptitude, or who may have had previous experience directly related to the proposed project. The consent of the Chairman of the Department must be obtained before registering. Elective for electrical majors. $3^{-6}$ s.h.

* Offered only upon sufficient demand; enrollment limited.

180. *Radio-Frequency Transmission and Propagation.-Theory and application of transmission and propagation at high and ultra-high frequencies: impedance-matching elements; coupling devices; cavity resonators; wave guides and antennas. Two class sessions and one three-hour laboratory. Prerequisites: EE 159, EE 261, and permission of instructor. EE 262 concurrently. Elective for electrical majors. 3 s.h.

Mr. Hatley
197. *Industrial Applications of Electrical Equipment.-A course of lectures, demonstrations and recitations designed especially for students in other branches of engineering, dealing with the basic principles of utilization of a wide variety of electrical equipment in industrial practice. Emphasis is on industrial control, motor and generator applications, and electronic devices and applications. Prerequisite: EE 124, and permission of instructor. Elective for non-electricals. 3 s.h.

Mr. Meier
198. *Industrial Control.-This course, open only to students majoring in electrical engineering, consists of a study of the electromagnetic and electronic control of electric motors in industrial applications. Prerequisites: EE 101102, EE 106. EE 148, EE 257, and permission of instructor. EE 258 concurrently. Elective for electrical majors. 3 s.h.

Mr. Meier
257-258. Alternating-Current Machinery.-A two-semester course dealing with the theory underlying the design, construction, and operation of synchronous generators, transformers, polyphase induction motors, synchronous motors, single-phase motors of all types, and converters and rectifiers. Prerequisites: EE 101-102 and EE 148. 6 s.h. Messrs. Meier and Martin
261. Communication Engineering: Low Frequency.-An advanced course dealing with the principles underlying voice-frequency communication. Included are the nature of sound and speech; wave propagation over metallic circuits; filters ; resistance, inductance and capacitance at audio frequencies; transmission characteristics of audio-frequency communication equipment. Three class sessions and one three-hour laboratory. Prerequisites: EE 101-102, EE 106, and Mathematics 131.4 s.h.

Mr. Hatley
262. Communication Engineering: High Frequency.-An advanced course dealing with the principles underlying communication at radio and ultra-high frequencies. Included are oscillating and coupled circuits, antennas, radiation, transmission, reception, and ultra-high frequency techniques. Three class sessions and one three-hour laboratory. Prerequisite: EE 261. 4 s.h.

Mr. Hatley
263-264. \%Operational Circuit Analysis.-An advanced course covering the mathematical analysis of certain circuits used in electrical engineering, with an introduction to the application of operational calculus to circuit analysis. Prerequisites: EE 101-102, Mathematics 131, and permission of instructor. Elective for electrical majors. 6 s.h.

Mr. Seeley

* Offered only upon sufficient demand; enrollment limited.


# DEPARTMENT OF MECHANICAL ENGINEERING 

Ralph Sydney Wilbur, Chairman<br>Professor<br>Frederick Jerome Reed<br>Associate Professor<br>Van Leslie Kenyon<br>Assistant Professor<br>William Marion Hardy Instructor<br>Ray Walter Holland Instructor<br>Ralph Pierpont Morgan Instructor<br>Leslie Clifford Wilbur Instructor<br>David Rabin<br>Visiting Instructor (Part-time)

The profession of mechanical engineering is founded upon the production of power from nature's resources and the application of this power to useful ends. It is a profession with many specialized fields of both theoretical and applied knowledge and techniques. Some of these fields of specialization are combustion or power production engineering, machine and machine-tool design, railway motive power engineering, automotive engineering, heating and air conditioning, refrigeration, and industrial management.

The Department makes no attempt to train specialized engineers during the four-year undergraduate course; rather, a well-balanced fundamental training with applications in the more active fields is its aim. Theoretical training in the classroom is carefully supplemented by application in the laboratory.

The equipment in the mechanical engineering laboratories has been carefully selected and grouped to yield the greatest educational benefit to the student.

## POWER PLANT LABORATORY

This laboratory occupies a two-story wing off the main mechanical engineering wing of the Engineering Building. A 3200 -pound per hour, automatic, oil-fired Combustion Engineering boiler, designed specifically for the needs of this laboratory, produces steam at 250 pounds pressure and a total temperature of $556^{\circ} \mathrm{F}$. This steam is utilized to operate a complete experimental power plant in the same wing. The experimental power plant consists of two 25-kw Westinghouse turbogenerator units, condenser and air ejector with after-condenser, feed-water heater, pumps and accessories, and a control and instrument board. The electric energy generated operates a synchronous motor and hydraulic dynamometer. Interconnection of piping and controls, and complete instrumentation, enable the simulation and study of any type of power plant in common use.


## MECHANICAL LABORATORY

Steam Equipment: Adjacent to the boiler room are a horizontal Troy engine with shaft cut-off governor, a Troy vertical throttling governing engine, a Sturtevant steam turbine, a condenser and air ejector with aftercondenser and accessories, and a boiler feed pump. These may be tested and studied individually or in combinations. Additional equipment for studying flow and quality of steam, an injector, and traps are located in this area.

Internal Combustion Equipment: A section of the west side of the laboratory contains two automotive-type and one tractor-type gasoline engines, with dynamometers, accessories and instruments for determining their characteristics and energy balances; in addition, a small singlecylinder Diesel engine-generator unit, a 6-cylinder Diesel engine-generator unit, and a 4-cylinder gasoline engine-generator unit provide complete coverage of types for thorough study of internal combustion.

Air Compression: Near the internal combustion section is a Worthington 8 by 9 -inch V -belt driven compressor supplying air at 100 pounds pressure and instrumented to permit very complete study of its characteristics and the general theory of air compression.

Hydraulic Apparatus: A section of the east side and south end of the laboratory contains a Cameron centrifugal pump combined with a series of weirs and orifices, as well as a hydraulic turbine which may be equipped alternately with either a Kaplan or Francis type of wheel. This equipment offers a complete range of experiments and tests in hyraulics and fluid mechanics.

Lubricants and Fuels Testing Laboratory: In the south end of the main laboratory are five rooms completely equipped for the study of solid, liquid, and gaseous fuel analysis and calorimetry: lubricant testing ; and feed-water analysis.

Instrument Room: An instrument room is provided for the storing and maintenance of instruments. Such instruments include steam and internal combustion engine indicators and reducing motions, tachometers and speed counters, planimeters, pressure gauges and gauge testers, thermometers of all types, scales of all types and small tools.

Heating, Air Conditioning, and Refrigeration: A standard type of coalfired heating boiler, standard centrifugal fan testing setup, equipment for studying the flow of air through ducts, registers and grilles, and two five-horsepower York Freon-12 refrigerating compressors are provided on the balcony for study and testing in this field.

## MATERIALS PROCESSING LABORATORY

Machine Tools: Two engine lathes, a universal milling machine, a shaper with slotter attachment, a drill press, a power grinder, and a power hack saw compose the metal-working tools. Such auxiliary attachments as are needed for general-purpose machines are provided for the above machine tools. Woodworking machines that include the lathe, band
saw, circular saw and planer, and a disc sander are available for pattern and model construction.

Welding Equipment: A 200 -ampere electric arc welding machine and complete oxy-acetylene welding and cutting equipment are provided for demonstration of these methods of construction and fabrication.

Casting Equipment: A gas-fired melting furnace and sufficient molding equipment are available for the production of small castings on a demonstration basis.

Metallographic and Heat Treating Equipment: Polishing equipment and a microscope are available for the preparation and examination of metal specimens. Heat treatments may be carried out with the use of a gasfired heat-treating furnace.

## PROGRAM OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

| Freshman Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | FIRST SEMESTER |  | SECOND SEMESTER |  |
|  | S.H. |  |  | S.H. |
| Math 5 | College Algebra ....... 3 | Math 50 | Analytic Geometry | . 3 |
| Math 6 | Trigonometry .......... 3 | Math 51 | Calculus I ....... | . 3 |
| Chem 1 | Chemistry ............ 4 | Chem 2 | Chemistry | . 4 |
| Engl 1 | English Composition .... 3 | Engl 2 | English Composition | . 3 |
| Hist E1 | History ............... 3 | Hist E2 | History . . . . . . . . . |  |
| GE 1 | Drawing .............. 2 | GE 2 | Descriptive Geometry | . 2 |
|  | Physical Education ..... 1 |  | Physical Education .. |  |
|  | 19 |  |  | 19 |

For Air Force ROTC students AS 11 (3 s.h.) is substituted for Hist E1 and AS 12 (3 s.h.) is substituted for Hist E2 above.

For Naval ROTC students NS 101 (3 s.h.) is substituted for Hist E1 and NS 102 (3 s.h.) is substituted for Hist E2 above.

Sophomore Year
FIRST SEMESTER SECOND SEMESTER

|  | S. H . |  | S.H. |
| :---: | :---: | :---: | :---: |
| Math 52 | Calculus II ............ 3 | Math 53 | Calculus III ........... 3 |
| Phys 51 | Physics .............. 5 | Phys 52 | Physics |
| Econ 51 | Economics ............. 3 | Econ 52 | Economics |
| GE 57 | Statics ............... 3 | ME 52 | Kinetics-Mechanism |
| ME 55 | Steam Engineering ..... 2 | Engl 93 | Advanced Composition . 3 |
| ME 51 | Constructive Processes .. 3 |  | Physical Education |
|  | Physical Education .. |  |  |
|  | 20 |  | 19 |

For Air Force ROTC students AS 61 (3 s.h.) and AS 62 (3 s.h.) are substituted for Econ 51-52 above.

For Naval ROTC students NS 201 (3 s.h.) and NS 202 (3 s.h.) are substituted for Econ 51-52 above.

## Junior Year

FIRST SEMESTER


For Air Force ROTC students AS 111 ( 4 s.h.) and AS 112 ( 4 s.h.) are substituted for Eng1 151 and ME 108 above.

For Naval ROTC students NS 301 (3 s.h.) and NS 302 (3 s.h.) are substituted for Eng1 151 and ME 108 above.

Senior Year

|  |  | FIRST SEMESTER |  | SECOND SEmester |
| :---: | :---: | :---: | :---: | :---: |
|  |  | S.f. |  | S.H. |
| $\begin{aligned} & \mathrm{ME} \\ & \mathrm{ME} \end{aligned}$ | 151 | Machine Design ....... 4 | ME 158 | Industrial Engineering . 3 |
|  | 155 | Internal Combustion | ME 162 | Power Plants |
|  |  | Engines ............. 3 | ME 154 | Refrigeration .......... 3 |
| ME | 153 | Heating-Air | IE 160 | Mech. Eng. Laboratory 2 |
|  |  | Conditioning ........ 3 | ME | Engineering Elective ... 3 |
| $\begin{aligned} & \text { ME } \\ & \text { ME } \end{aligned}$ | 159 | Mech. Eng. Laboratory 2 |  | Elective ( Non- |
|  |  | Engineering Elective ... 3 |  | Technical) |
|  |  | Elective (Non- |  |  |
|  |  | Technical) ........... 3 |  | 17 |

18
For Air Force ROTC students AS 211 (1 s.h.) is added to the first semester program and AS 212 (1 s.h.) is added to the second semester program above.

For Naval ROTC students who are candidates for a Nary commission NS 401E ( $1 \mathrm{~s} . \mathrm{h}$.) is added to the program of one of the two semesters, and Econ 51-52 (6 s.h.) is substituted for the two non-technical electives above.

For Naval ROTC students who are candidates for a Marine Corps commission, NS 401 M ( $3 \mathrm{s.h}$.) and NS 402 M ( $3 \mathrm{~s} . \mathrm{h}$.) are substituted for the two non-technical electives above.

## COURSES OF INSTRUCTION

51. Constructive Processes.-Recitation course covering fundamentals of metallurgy and general processes of casting, forging, and machining. Demonstration or observation of basic machining operations is arranged when possible. Prerequisite: Chemistry 2. 3 s.h. Messrs. Holland and L. C. Wilbur
52. Kinetics-Mechanism.-Motions of particles. Applications of Newton's laws of motion to motions of rigid bodies. Work, energy, impulse, and momentum. Linkages, cams, gears, trains of mechanism. Three recitations, three laboratory hours. Prerequisites: GE 2, GE 57, Mathematics 52. 4 s.h.

Messrs. Reed and Hardy
55. Steam Engineering.-Elementary principles of boilers, engines, turbines, and auxiliaries; properties of steam; fuels and combustion. Prerequisite: Chemistry 2. 2 s.h. Messrs. Morgan and L. C. Wilbur

101-102. Engineering Thermodynamics.-A study of thermodynamic properties and processes of gases, vapor and gas-vapor mixtures ; cycles; efficiencies and performance of steam power plant equipment. Three recitations. Prerequisites: Mathematics 52, Physics 52, ME 55. 6 s.h.

Messrs. R. S. Wilbur, Reed and Kenyon
103-104. Heat Power Engineering.-A short course in engineering thermodynamics with applications to power plant design, for CE and EE students only. Three recitations. Prerequisites: Chemistry 2, Mathematics 52, Physics 52. 6 s.h.

Messrs. Kenyon, Morgan and L. C. Wilbur
105. Fluid Mechanics.-Fluid statics; kinematics of fluid flow; application of fluid dynamics theory to flow through orifices, weirs, and pipes; general principles of centrifugal pumps and turbines. Prerequisites: ME 52, Mathematics 52, Physics 52.

Messrs. R. S. Wilbur and Morgan
106. Heat Transfer.-Conduction, radiation and convection; heat transfer to boiling liquids or condensing vapors; over-all transfer of heat, steady state or variable flow. Applications to heat power, heating, and air conditioning, and refrigeration. Prerequisites: ME 101 or 103, ME 105 or GE 128. Mathematics 52. ME 102 or 104 concurrently. May be elected by limited number of CE and EE students. 3 s.h.

Mr. Reed
108. Aeronautics.-A general course applying fluid mechanics principles to airfoils, propellers, and the complete airplane. Prerequisite: ME 105. 3 s.h.

Mr. Morgan

113-114. Junior Mechanical Engineering Laboratory.-Open only to mechanical engineering students. First semester, three laboratory hours, devoted to experiments and reports in hydraulics, flue gas analyses, calorific value of fuels. Second semester, six laboratory hours, devoted to experiments and reports related to thermodynamics, such as boiler inspection, air compression, injectors, steam and fuel calorimetry. Prerequisite: ME 55. ME 101-102 concurrently. 3 s.h.

Mr. R. S. Wilbur and Staff
115-116. Junior Mechanical Engineering Laboratory.-Open only to electrical and civil engineering students. Experiments and reports on measuring instruments and apparatus, flow of air, steam and water, economy of boilers, steam and internal combustion engines. Three laboratory hours. ME 103104 concurrently. 2 s.h. Mr. R. S. Wilbur and Staff

150-151. Machine Design.-Application of principles of mechanics, strength of materials, constructive processes and engineering drawing to the design of bolted, riveted and welded connections, pressure yessels and machine elements, followed by design of at least one complete machine. ME 150 has two recitations and three laboratory hours; ME 151 has two recitations and six laboratory hours. Prerequisites: GE 2, ME 52, GE 57, ME 51, GE 107. 7 s.h. Messrs. Holland and L. C. Wilbur

153-154. Heating, Air Conditioning and Refrigeration.-Determinations of heat losses and gains; design of steam, hot water and warm air heating and air conditioning systems; panel heating. Fundamentals of refrigeration theory and design. Applications of refrigeration to summer and year round air conditioning; commercial and industrial applications of refrigeration. Prereguisites: ME 102, ME 105, ME 106. ME 159-160 concurrently. Two recitations, three laboratory hours. 6 s.h.

Mr. Reed
155. Internal Combustion Engines.-Principal cycles; fuels and fuel mixtures; effect of real mixtures on theoretical cycles; combustion; carburetion and fuel injection. Thermodynamic analysis of engine performance. Modern development in the internal combustion engine. Three recitations. Prerequisite: ME 101-102. 3 s.h.

Mr. Hardy
157. Centrifugal Pumps and Blowers.-A study of the basic principles of design, construction and application of centrifugal pumps and blowers. May be elected by a limited number of mechanical engineering seniors with consent of Chairman of Department. Prerequisite: ME 105. 3 s.h.

Mr. R. S. Wilbur
158. Industrial Engineering.-A study of the industrial growth and present tendencies of productive industries as concerns the engineer. Specific topics treated are: plant location, organization, production and cost controls, wage payment, etc. Seniors only. Three recitations. 3 s.h. Mr. Lewis
159. Senior Mechanical Engineering Laboratory.-Tests and reports on performance and economy of internal combustion engines, steam engines and turbines; heat transfer, radiator tests, and energy balances. Required of all seniors in mechanical engineering. Six laboratory hours. Prerequisite: ME 114. ME 153 concurrently. 2 s.h. Mr. R. S. Wilbur and Staff
160. Senior Mechanical Engineering Laboratory.-Required of all seniors in mechanical engineering. Tests and reports on boiler, engine, turbine, condenser and accessories; heat transfer; refrigeration equipment. Six laboratory hours. Prerequisite: ME 159. ME 154 and ME 162 concurrently. 2 s.h.

Mr. R. S. Wilbur and Staff
162. Power Plant Calculations.-Study of economic and engineering factors in developing steam power plants. Consideration of the performance of boilers, prime movers, condensers and various auxiliaries in various groupings as they affect the plant heat balance. May be elected by limited number of CE or EE students. Three recitations. Prerequisite: IIE 101-102 or ME 103-104. 3 s.h. Mr. R. S. Wilbur
164. *Engineering Analysis.-A study of a series of engineering problems with particular reference to mathematical and graphical methods of solution and engineering interpretation of results. 3 s.h.

Mr. L. C. Wilbur
166. Air Conditioning Design.-Analysis of air-conditioning requirements, summer and winter, commercial and industrial. Design of systems and units, and selection of equipment. Open to seniors who have completed ME 153. 3 s.h.

## Mr. Reed

197-198. Projects in Mechanical Engineering.-This course may be assigned by the Chairman of the Department to certain Seniors who express a desire for such work and who have shown aptitude for research in one distinct field of mechanical engineering. Elective credit for either semester. 3-6 s.h. Mr. R. S. Wilblr and Staff

* Offered only upon sufficient demand; cnrollment limited.


## FEES AND EXPENSES

All fees listed below, with the exception of that for registration, are due and payable at the beginning of each semester. The General Fee, adopted by the Board of Trustees in March, 1947, became effective for the academic year 1947-48. It takes the place of various separate fees heretofore collected, and is a consolidation, principally for simplification, of these separate fees. Among the fees included in this consolidation are the laboratory fees, athletic fee, publication fee, medical fee, matriculation fee, library fee, and commencement fee.

Registration, payable only once, on notice of acceptance. This is not

Tuition .......................................................................... 175.00
General Fee .................................................................... 75.00
An advance deposit of $\$ 25.00$ is required of all students at the time of spring registration in order to reserve a place in the classes for the fall semester. This is applied toward payment of the general fee upon the opening of the fall semester. The deposit will be refunded to students whom the University does not permit to return. Students who fail to return of their own volition are not entitled to a refund.

An advance deposit of $\$ 25.00$ is also required of old students who have been out of school for one or more semesters and have been accepted for readmission. It is applied toward payment of the general fee for the semester of readmission. The advance deposit is paid at the time of acceptance and is not refundable.

## ESTIMATED EXPENSES FOR AN ACADEMIC YEAR

The necessary expenses of a student are moderate; the University dormitories provide thoroughly comfortable and wholesome living conditions at a minimum of cost. Incidental expenses depend naturally upon the tastes and habits of the individual, but the actual necessary expenses are as follows:

|  | Low | Moderate | Liberal |
| :---: | :---: | :---: | :---: |
| Tuition | . $\$ 350.00$ | \$ 350.00 | \$ 350.00 |
| General Fee | 150.00 | 150.00 | 150.00 |
| Room-rent | 100.00 | 125.00 | 175.00 |
| Board | 325.00 | 375.00 | 450.00 |
| Laundry | 25.00 | 30.00 | 35.00 |
| Books | 20.00 | 30.00 | 40.00 |
|  | \$970.00 | \$1,060.00 | \$1,200.00 |

The actual fees and expenses necessary for one year in residence as a student in the College of Engineering, then, can be met within $\$ 970.00$.

## LIVING ACCOMMODATIONS FOR MEN

Single room, per semester-Craven, Crowell, and Kilgo Quadrangles,
West Campus ............................................................ 87
Double room, per student. per semester-Craven, Crowell, and Kilgo
Quadrangles, West Campus ................................................. 62.50
There are three groups of resident houses desiginated as Craven, Crowell, and Kilgo Quadrangles on the West Campus. The rooms are single. double, or arranged in suites of two rooms for four students. There are thirty-one houses within the three groups designated by the letters of the alphabet.

One dormitory is assigned to freshmen.
Rooms may be reserved only for applicants who have been officially accepted by the University. A fee of $\$ 25.00$ is required for reservation. This fee is deducted from the room rental charge at the time of registration for the semester: it is not refunded unless application for the refund is made sixty days prior to the registration date of the semester.

A resident student in order to retain his room for the succeeding semester must make application, accompanied by a reservation fee of $\$ 25.00$. All rooms which have not been reserved on or before an announced date will be considered vacant for the succeeding semester and will be reserved in the order in which applications are made.

Rooms are rented for no shorter period than one semester, or, in the case of a medical student, one quarter, unless by special arrangement with the Housing Bureau. A period of occupancy other than a semester or quarter and without special arrangement will be charged at a minimum rate of $\$ 1.00$ each day.

The exchange of rooms may be arranged at the Housing Bureau within fifteen (15) days after the official opening of the semester or quarter of the school term. A charge of two dollars (\$2.00) will be made for the exchange of rooms after the periods allowed for such exchange. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume the responsibility for the personnel selected as roommates. Each student is urged to select the roommate when the room is reserved.

## DINING SERVICE

West Campus.-Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room where full meals and a la carte items are served.

## RULES REGARDING PAYMENTS

The Executive Committee of Duke University has enacted the following regulations which govern the payment of all fees due the University.

1. The President and the Treasurer of the University have no authority to suspend or in any way alter these regulations.
2. Any student who has failed to pay his bills on the dates advertised in the catalogue is denied the right to attend classes until his account is settled in full; subsequent withdrawal does not entitle a student to a refund.
3. No student is considered by the Faculty as an applicant for graduation until he has settled with the Treasurer for all his indebtedness to the University.
4. No student who has not settled all his bills with the Treasurer of the University is allowed to stand the midyear or final examinations of the academic year.

When a student wishes his bills sent to his parents or guardian, the student or his parent or guardian must so notify the Treasurer of the University in writing in due time, but this in no way releases the student from liability to established penalties, if his bills are not paid on the dates advertised.

## ACTIVITIES

## STUDENT BRANCHES OF ENGINEERING PROFESSIONAL SOCIETIES

The three Departments of the College of Engineering support student branches of the following national professional engineering societies:

American Institute of Electrical Engineers, American Socicty of Ciril Engineers, American Society of Mechanical Engineers.

## ENGINEERING STUDENT HONORARY SOCIETIES

Chapters of the following national engineering student honorary societies are maintained at Duke:

Tau Beta Pi (National Honorary Engineering Fraternity).
Pi Tau Sigma (Mechanical Engineering National Honorary Society).
Order of St. Patrick (Leadership in Engineering Student Activities).

## ENGINEERING STUDENT PUBLICATION

The DukEngineer, official student-published magazine of the College of Engineering which appears twice each semester, contains articles on technical and semi-technical topics and other matters of interest in the College.

## THE ENGINEERS' CLUB

The Engineers' Club sponsors social activities among students of the College of Engineering.

## GENERAL ACTIVITIES OPEN TO ENGINEERS

The Young Men's Christian Association; Classical Club; Debate Council; Club Panamericano; Duke Masonic Club; Duke University Steering Committee; Duke Players; Duke University Church (Interdenominational) ; Duke University Handbook and Directory; Freshman Advisory Council; Hoof 'n' Horn Club; Interfraternity Council; Intramural Athletic Department; Pegram Chemistry Club; Quadrangle Pictures; Shoe and Slipper Club; Student Religious Council: Town Boys' Club; G.O. Politan Club; World Student Service Fund; Young Democrats Club; Duke University Instrumental Music Association; Men's Glee Club; The University Chapel Choir; The Archive (Monthly); Chanticleer (Annual) ; Chronicle (Weekly) ; Duke 'n' Duchess (Monthly Humor).

## HONORARY SOCIETIES

In addition to the national engineering student honorary societies, students of the College of Engineering are eligible for membership in the following national honorary societies:

Phi Beta Kappa (Scholarship); Sigma Xi (Scientific Research); Omicron Delta Kappa (Leadership-Men) ; Phi Eta Sigma (Freshman

Scholarship) : Pi Mu Epsilou (Mathemetics) ; Sigma Pi Sigma (Physics) : Sigma Dclta Pi (Spanish); Tau Kappa Alpha (Forensic): Tau Psi Omega (French): Theta Alpha Phi (Dramatic) ; Delta Phi Alpha (German).

Local honorary societies for which engineers are eligible include: 9019 (Scholarship) : Rcd Friars (Leadership); Bcta Omcga Sigma (Sophomore Leadership) ; Tombs (Athletic).

## NATIONAL SOCIAL FRATERNITIES

Alpha Tau Omega; Beta Theta Pi; Delta Sigma Phi; Delta Tau Delta; Kappa Alpha; Kappa Sigma; Lambda Chi Alpha; Plii Delta Theta; Phi Kappa Psi ; Phi Kappa Sigma; Pi Kappa Alpha; Pi Kappa Phi; Sigma Alpha Epsilon; Sigma Chi ; Sigma Nu; Sigma Phi Epsilon; Theta Chi; Zeta Beta Tau.

## HONORS

To be eligible for Honors, a student must earn during the year a credit of not less than thirty semester hours. Students in the Freshman, Sophomore, and Junior classes who earn an average of at least two and one-half quality points per semester hour are given Honors. All semester hours on which a student receives a grade are counted in the determination of Honors.

The degree of Bachelor of Science in Civil, Electrical, or Mechanical Engineering with distinction is conferred under the following rules:

Students who have completed a minimum of ninety semester hours in Duke University are eligible for general Honors at graduation. Those who earn an average of at least two and one-half quality points per semester hour are recommended for a degree magna cum laude. Those who earn an average of at least two and three-fourths quality points per semester hour are recommended for a degree summa cum laude. All semester hours taken in Duke University on which a student receives a grade are counted in the determination of Honors.

## PRIZES

The Sigma Xi Prize: The Society of the Sigma Xi, national scientific research society, is devoted to the encouragement of scientific research and seeks to stimulate those who show promise of accomplishment in this field. As an encouragement to younger men and women the Duke Chapter of Sigma Xi has established several prizes to be awarded annually, among them a prize for an outstanding undergraduate project or paper.

Julia Dale Prize in Mathematics: This is a prize of books given annually to the undergraduate who shows the greatest proficiency in the study of the calculus.

The Milmoz Prize: This prize, consisting of one year's subscription to the Electrical IV orld, is awarded each year to that student from North or South Carolina graduating in the Department of Electrical Engineering, who, in the opinion of the faculty of that department and as shown by his grades, has made the most progress in electrical engineering during his last year in college.

The Tan Beta Pi Prize: The North Carolina Gamma Chapter of Tau Beta Pi, national honorary engincering fraternity, awards each year a suitable prize, such as an engineering handbook, to a sophomore student in engineering for outstanding scholastic achievement during the freshman year.

The William Senhauser Prize is given by his mother in memory of her son, a member of the class of 1942, who lost his life in the Pacific Theatre of War on August 4, 1944. The award is made annually to the sophomore or junior in Trinity College or the College of Engineering who has made the greatest contribution through participation and leadership in intramural sports. The winner of this prize is chosen by a committee selected by the President of the University.

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## BULLETIN OF

## DUKE UNIVERSITY

# The Summer Session 

First Term: June 14-July 22<br>Second Term: July 6-August 12<br>Third Term: July 24-August 31

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham; N. C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.

For Bulletin of The School of Law, apply to The Dean of the School of Lare, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulretin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

## BULLETIN

# OF <br> Duke University 

SUMMER SESSION<br>ANNOUNCEMENT



1950

First Term: June 14-July 22<br>Second Terar: July 6-August 12<br>Third Term: July 24-August 31

DURHAM, NORTH CAROLINA
1950


The Woman's College Auditorium, East Campus, Duke University

## CALENDAR OF SUMMER SESSION

June

July

August
5 Saturday-Not a holiday. All classes meet.
7 Monday, 9 A.M.-Institute for Teachers of Mathematics begins.
11-12 Final examinations for the second term.
19 Saturday-Final examinations in Chemistry, Geology, Physics S102, and Zoology.

26 Saturday-Final examination in Physics S52.
30-31 Final examinations for the third term.
September 1-12 Special course in Solid Geometry.

## ADMINISTRATIVE OFFICERS

ARTHUR HOLLIS EDENS, B.Ph., A.M., M.P.A., Ph.D., LL.D., President of Duke University<br>PAUL MAGNUS GROSS, B.S., A.M., Ph.D., Vice-President in the Educational Division, and Member of the University Committee on the Suminer Session<br>CHARLES EDWARD JORDAN, A.B., LL.D., Vice-President in the Division of Public Relations, Secretary of the University, and Member of the University Committee on the Sumier Session<br>HERBERT JAMES HERRING, A.B., A.M., LL.D., Vice-President in the Division of Student Life, Dean of Trinity College, and Member of the University Committee on the Summer Session<br>ALFRED SMITH BROWER, A.B., Business Manager and Comptroller, and Member of the University Committee on the Summer Session<br>WILLIAM THOMAS LAPRADE, A.B., Ph.D., Member of the University Committee on the Summer Session<br>ALAN Krebs manchester, A.B., A.M., Ph.D., Dean of Undergraduate Studies, and Member of the University Committee on the Summer Session<br>JOSEPH CLARK ROBERT, A.B., A.M., Ph.D., Associate Dean of the Graduate School, and Member of the University Committee on the Sumaer Session<br>PAUL HibBERT CLYDE, A.B., A.M., Ph.D., Director of the Summer Session<br>ARTHUR MARCUS PROCTOR, A.B., A.M., Ph.D., Co-Director of the Sumimer Session<br>MARY GRACE WILSON, A.B., A.M., Dean of Residence and Social Director, Woman's College

## THE FACULTY

Abams, Doxald Keith, A.B., M.A., Ph.D.; Psychology (Duke University). Anderson, Lewis Edward, B.S., A.M., Ph.D.; Botany (Duke University). Archie, Willian Couxicil, A.B., A.M., Ph.D.; Romance Lanyuayes (Duke University).
Balley, Joseph R., A.B., M.A., Ph.D.; Zoology (Duke University).
Balseiro, José Augustín, A.B., LL.B.; Spanish (University of Miami).
Baum, Paull F., A.B., A.M., Ph.D.; English (Duke University).
Bennett, Walter H., A.B., A.M., Ph.D.; Political Science (University of Alabama).
Berry, Edward Willard, A.B., Ph.D.; Geology (Duke University).
Black, Martin Lee, Jr., A.B., M.B.A., C.P.A.; Economics (Duke University).
Blackburx, William Maxwell, A.B., B.A., M.A., Ph.D.; English (Duke University).
Blomquist, Hugo Leander, B.S., Plı.D.; Botany (Duke University).
Bolmeier, Edward Claude, A.B., A.M., Ph.D.; Education (Duke University). Boorhout, Cazlyx Grees, A.B., A.M., Ph.D.; Zoology (Duke University). Bowman, Francis Ezra, A.B., M.A., Ph.D.; English (Duke University). Bradley, Dayid G., A.B., M.A., B.D., Ph.D.; Religion (Duke University).
Bradsher, Charles Kilgo, A.B., M.A., Ph.D.; Chemistry (Duke University).
Brown, Chandler Wilcox, B.S.; Civil Engincering (Duke University).
Brown, Frances, A.B., Ph.D.; Chemistry (Duke University).
Cancon, James, III, A.B., A.M., Th.B., Th.M., D.D.; Reliyion (Duke University).
Carlitz, Leonard, A.B., A.M1.. Ph.D.; Mathematics (Duke University). Carpenter, David Whlliam, A.B., A.M., Ph.D.; Physics (Duke University). Carr, John Winder, Jr., A.B., A.M., Ph.D.; Education (Duke University). Childs, Benjamin Guy, B.A., M.A.; Education (Duke University). Cleland, James T., M.A., B.D., Th.M.; Religion (Duke University). Clyde. Paul Hibbert, A.B., A.M., Ph.D.; History (Duke University). Curtiss, John Sheltox, A.B., A.M., Ph.D.; History (Duke University). Cushman, Robert E., A.B., B.D., Ph.D.; Rcligion (Duke University). Dayis, Gifford, A.B., A.M., Ph.D.; Spanish (Duke University). Dressel, Francis George, B.S., M.S., Ph.D.; Mathematics (Duke University). Easley, Howard, A.B., M.A., Ph.D.; Education (Duke University). Edgerton, Jesse Wilbert, B.S.. M.A.: Psychology' (Duke University). Elliot, William Whitfield, B.A., M.A., Ph.D.; Mathematics (Duke University).
Gergen, Johs Jay, A.B., A.M.., Ph.D.: Mathematics (Duke University).
Gohdes, Clarence, A.B., A.M., Ph.D.; English (Duke University).
Graham, Philip, A.B., A.M., Ph.D.; English (University of Texas).
Gray, Irving Emery, B.S., M.S., Ph.D.; Zoology (Duke University)

Greene, Lee Seifert, B.M., A.B., A.M., Ph.D.; Political Science (University of Tennessee).
Hamilton, William Baskerville, Jr., A.B., A.M., Ph.D.; History (Duke University).
Hart, Hornell Norris, A.B., M.A., Ph.D.; Sociology (Duke University).
Haupt, George W., B.S., M.A., Ph.D.; Education (Glassboro State Teachers College).
Hernández, Gustavo René, B.A., M.A.; Spanish (Birmingham-Southern College).
Hickson, Arthur Owen, A.B., A.M., Ph.D.; Mathematics (Duke University).
Highsmith, John Henry, A.B., A.M., LL.D., D.Ed.; Education (Director of Instructional Service, North Carolina State Department of Public Instruction).
Hillman, James Elgan, B.S., A.M., Ph.D.; Education (Director of Professional Service, North Carolina State Department of Public Instruction).
Horn, Edward Charles, B.S., A.M., Ph.D.; Zoology (Duke University).
Hornaday, John A., A.B., A.M.; Psychology (Woman's College of the University of North Carolina).
Hornberger, Theodore, A.B., A.M., Ph.D.; English (University of Minnesota).
Hunter, Wanda Sanborn, Mrs., A.B., M.S., Ph.D.; Zoology (Duke University).
Hyldberg, Carl A., Jr., A.B., LL.B.; Economics (Duke University).
Ingles, Thelma, R.N., B.A., M.A.; Nursing Education (Duke University).
Jensen, Howard Eikenberry, A.B., A.M., Ph.D.; Sociology (Duke University).
Joerg, Frederick C., A.B., M.B.A.; Economics (Duke University).
Johnson, Mychyle Wellington, A.B., Ph.D.; Zoology (Duke University).
Jordan, Arthur Melville, A.B., A.M., Ph.D.; Education (University of North Carolina).
Landon, Charles Edward, A.B., A.M., Ph.D.; Economics (Duke University). Lanning, John Tate, A.B., A.M., Ph.D.; History (Duke University).
Layman, Emma McCloy, Mrs., A.B., M.A., Ph.D.; Education (Woman's College of the University of North Carolina).
Lemert, Ben Franklin, B.Sc. in Bus. Admin., M.A., Ph.D.; Economics (Duke University).
Lewis, Robert G., A.B., A.M., Ph.D.; French (Duke University).
Llerena, Mario, B.A., Doctor en Filosofía y Letras (Havana); Spanish (Duke University).
McKenzie, Lionel, A.B., M.A.; Economics (Duke University).
McLarty, Furman Gordon, A.B., B.A., A.M., Ph.D.; Philosophy (Duke University).
MacLean, Kenneth, A.B., Ph.D.; English (Victoria College).
MacMillan, Louis de Rosset, A.B., C.P.A.; Economics (Duke University).
Manchester, Alan Krebs, A.B., A.M., Ph.D.; History (Duke University).
Massey, Lucy, R.N., B.A., M.A.; Nursing Education (Duke University).

Mathewson, Franklin T., A.B., M.A., Ph.D.; Education (Supervisor of Audio-V isual Education, White Plains, N. Y., Public Schools).
Maxwell, William Cary, A.B., A.M., Ph.D.; German (Duke University). Monroe, Robert J., B.S., Ph.D.; Zoology (State College of North Carolina). Moser, Louise, R.N., A.B., M.N.; Nursing Education (Duke University).
Myers, Hiram Earl, A.B., S.T.B., S.T.M.; Religion (Duke University).
Najam, Edward W., B.A.; French (Duke University).
Negley, Glenx, A.B., Ph.D.; Philosoply (Duke University).
Nielsen, Walter McKinley, B.S. in E.E., Ph.D.; Physics (Duke University). Novak, Benjamin J., B.S., M.Ed., Ed.D.; Education (Temple University). Ostwalt, Jay Harold, A.B., A.M.; Education (Davidson College).
Patterson, Karl Bockman, A.B., A.M.; Mathematics (Duke University).
Patton, Lewis, A.B., Ph.D.; Engiish (Duke University).
Petry, Ray C., A.B., A.M., Ph.D., LL.D.; Religion (Duke University).
Phillips, James Henry, A.B., B.D., Ph.D.; Religion (Duke University).
Powell, William Allen, B.S.; Chemistry (Duke University).
Predmore, Richard Lionel, B.A., M.A., D.M.L.; Spanish (Duke University).
Proctor, Arthur Marcus, A.B., A.M., Ph.D.; Education (Duke University).
Rankin, William Walter, Jr., B.E., M.A.; Mathematics (Duke University).
Ratchford, Benjamin Ulysses, B.S., A.M., Ph.D.; Economics (Duke University).
Reardon, Kenneth James, A.B., A.M.; English (Duke University).
Rees, Envis, A.B., Ph.D.; English (Duke University).
Richards, Claude Henry, A.B., A.M., Ph.D.; Political Science (Duke University).
Roberts, Henry Stoutte, Jr., A.B., Ph.D.; Zoology (Duke University).
Roberts, John H., A.B., Ph.D.; Mathematics (Duke University).
Ropp, Theodore, A.B., A.M., Ph.D.; History (Duke University).
Rose, Jesse Lee, A.B., M.A., Ph.D.; Latin and Greek (Duke University).
Rudisill, Mabel, A.B., M.A., Ph.D.; Education (Duke University).
Rudolph, Victor John, B.S., M.F.; Forestry (Duke University).
Runkel, Howard W., B.A., M.A.; English (Duke University).
Sayille, Lloyd, A.B., M.A.; Economics (Duke University).
Saylor, John Henry, A.B., A.M., Ph.D.; Chemistry (Duke University).
Schettler, Clarence Henry, A.B., A.M., Ph.D.; Sociology (Duke University).
Schumacher, Francis Xavier, B.S.; Forestry (Duke University).
Shatber, Mathias A., A.B., A.M., Ph.D.; English (University of Pennsylvania).
Shields, John Herman, A.B., A.M.; Economics (Duke University).
Simmons, Edward Christina, A.B., A.M., Ph.D.; Economics (Duke University).

Slay, James Matthew, A.B., A.M.; Education (Duke University).
Smith, Dorothy, R.N., B.S., M.Ed.; Nursing Education (Duke University). Smith, Robert Sidney, A.B., A.M., Ph.D.; Economics (Duke University).
Spengler, Joseph John, A.B., M.A., Ph.D.; Eeonomies (Duke University).
Stumpf, Wippert A., B.S., A.M., Ph.D.; Edueation (Duke University).
Sydnor, Charles Sackett, A.B., Ph.D., Litt.D.; History (Duke University).
Thompson, Edgar Tristram, A.B., A.M., Ph.D.; Sociology (Duke University).
Torre, Elías, Bachillerato (Instituto Cardenal Cisneros), Bachillerato Universitario (Universidad de Madrid) ; Spanish (Rutgers University).
Truesdale, James N., A.B., A.M., Ph.D.; Greck (Duke University).
Travis, Martin B., A.B., A.M., Ph.D.; Political Seicnee (Duke University).
Walton, Loring Baker, A.B., Lic. es L., Ph.D.; Romance Languages (Duke University).
Walton, Wesley W., B.S., M.Ed.; Education (Duke University).
Ward, Charles Eugene, A.B., A.M., Ph.D.; English (Duke University).
Watson, Richard L., Jr., A.B., Ph.D.; History (Duke University).
Welsh, Paul, A.B., Ph.D.; Philosophy (Duke University).
Whitridge, Eugenia R., Mrs., A.B., A.M., Ph.D.; Sociology (Duke University).
Wilder, Jesse H., B.S. in M.E., M.S.; Cizil Engincering (Duke University).
Wilder, Pelhain, Jr., A.B., M.A.. Ph.D.; Chemistry (Duke University).
Williams, Louis G., A.B., A.M., Ph.D.; Botany (Furman University).
Wilson, Frederick Eliphaz, A.B.. A.M.; German (Duke University).
Woody, Robert Hilliard, Ph.B., A.M., Ph.D.; History (Duke University).
Wright, Herbert F., A.B., A.M., Ph.D.; Psychology (University of Kansas).
Young, Franklin Woodrow, A.B., B.D.. Ph.D.; Religion (Duke University).
Zener, Karl Ediard, Plı.B., A.ML., Plı.D.; Psychology (Duke University).

## DUKE UNIVERSITY SUMMER SESSION

Duke University, located at Durham, North Carolina, includes Trinity College, the Woman's College, the College of Engineering, the Graduate School of Arts and Sciences, the Divinity School, and the Schools of Law, Medicine. Nursing, and Forestry. The student body is drawn from the entire United States, with a representative group of foreign students.

Duke University is located on two campuses connected by prompt bus service. The Duke Forest is adjacent and easily accessible to the West Campus. This campus, with its Tudor Gothic architecture, has all dormitories, laboratories, classroom buildings, auditorium, administration building, and buildings of the professional schools arranged in quadrangles, of which the University Chapel is the dominating center. To the right of the Chapel, as one enters the main quadrangle, stands the General Library, the largest in the South. Opposite the Library is the Union, center of student activities, in which are housed practically all the facilities needed in the general day-by-day round of student life, including a large social lobby, reading room, information office, alumni headquarters, Bureau of Public Information offices, three cafeterias, the Oak Room, reception rooms, headquarters for various student organizations, a government post office, a typing bureau, the University stores, and a barber shop.

The East Campus, or the Woman's College Campus, is well located with regard to the business section of Durham. Its dormitories, classroom buildings, library, auditorium, and administration building are conveniently grouped together with the Union, center of student activities, the government post office, and the College Store. The Ark, the recreational building for women students, the swimming pool in the Woman's College Gymnasium, the temnis courts, and the playing fields afford ample opportunity for recreational activities cluring the summer term.

For the Summer Session of 1950 men students will be housed on the West Campus. For the first and second terms women students will be housed on the East Campus. All students, men and women, enrolled in The School of Spanish Studies will be housed in the Spanish House (Southgate, East Campus). Classes will be scheduled on both campuses during the first and second terms. Classes in the Departments of Education. English, French, Philosophy, Psychology, and Sociology will be scheduled for the most part on the East Campus.

## THE SUMMER SESSION PROGRAM: CREDITS

The Summer Session program is designed to serve:

1. Students now matriculated in the various schools and departments of Duke University, graduate and undergraduate, who wish to earn additional credits toward the completion of the work for their degrees.
2. Students matriculated in other colleges and universities who wish to earn credits to be transferred back to the school in which they are matriculated.
3. Graduates of accredited ligh schools and undergraduates with advanced standing who have been admitted to Duke University and who wish to enter upon their program of work in advance of the regular session.
4. Teachers in service who wish to earn credits for the renewal of their certificates, or to enter upon a program of work for an advanced degree, or to pursue certain courses which will contribute to the improvement of their teaching efficiency.
5. Candidates for the Master of Arts and Master of Education degrees who desire to complete degree requirements in a series of summers.

Professional credits towards teachers' certificates are granted by the various state boards of education, each in accordance with its own carefully planned rules. Teachers in service, before enrolling for certification credit, should consult the rules laid down by their State Board of Education. If necessary, they should send to their State Board of Education a list of the courses in which they plan to enroll and inquire whether these will be acceptable for certification credit.

The normal courses in the Summer Session will meet daily, Monday through Friday, for an eighty minute period, throughout the term of six weeks. (Certain unit courses, particularly the beginning courses in English and the foreign languages, will meet twice daily. Elementary courses in the physical and natural sciences occupy a student's entire time daily and continue through a period of eight weeks, except Physics S51, S52 which will continue through ten weeks.) Each normal course carries a credit of three semester hours and two such courses constitute a full load for the student. No student is permitted to obtain credit for more than two such courses and no instructor teaches more than two. The maximum credit allowed for Summer Session work is one semester hour per week spent in residence and work. The maximum credit allowed for the sixweeks term, therefore, is six semester hours. Laboratory courses which are extended to eight or ten weeks carry eight or ten semester hours of credit.

Courses numbered 1-49 are primarily for Freshmen, or Freshmen and Sophomores. Courses numbered 50-99 are ordinarily for Sophomores, or Sophomores and Juniors. Courses numbered 100-199 are designed for Juniors and Seniors. Courses numbered 200-299 are planned for Seniors and graduates. Courses numbered from 300 up admit graduate students only and are of limited enrollment. Courses numbered from 200 up are usually limited in enrollment to approximately twenty-five students, and during the Summer Session consist almost entirely of graduate students. Graduate seminars are limited to fifteen students or fewer.

## SPECIAL COURSES FOR FRESHMEN AND UNDERGRADUATES

Graduates of accredited high schools, entering as Freshmen, who desire to begin their program of work before the regular year, may enter
summer classes and complete, within six weeks, a full year's work in the subject taken. The School of Spanish Studies offers exceptional opportunity for such of these students as desire work in Spanish. General Zoology is also offered for beginning students, whether pre-medical or simply students desiring to complete their year of required science for the Bachelor of Arts degree. General Chemistry, English Composition, Elementary French, General Geology, Elementary German, College Algebra, and Plane Trigonometry are other courses open to such Freshmen.

Undergraduate students of the Woman's College, Trinity College, and the College of Engineering, Duke University, as well as undergraduates of other colleges who need credit for six or twelve semester hours to complete the requirements for their degree, or who need credits in certain courses to round out their program of work, will find a variety of courses carrying undergraduate credits available in both the first and third terms of the Summer Session. The variety of courses available in the third term is much less than that in the first term. In order to get the courses they prefer students should apply promptly. If as many as ten students apply for a course not listed in the Bulletin, an effort will be made to secure an instructor and to give the course.

## OPPORTUNITIES FOR GRADUATE STUDENTS

A majority of the students in the Summer Session are graduates of standard colleges. Many of them are teachers and administrative or supervisory officials in the public schools. The Summer Session program specifically attempts to provide offerings in those departments of instruction where the work of the courses will be related to the training needs of such teachers and school officials. An attempt has been made to build up regular sequences of graduate courses continuing through a series of summer terms in which graduate students may enroll with reasonable assurance that sufficient work will be offered to enable a properly qualified student to complete the requirements for the Master's degree within the six-year period permitted by the University. Departments which have developed graduate courses whereby students in a series of summer terms may complete the requirements for the Master's degree are: Botany, Economics, Education, English, History, Mathematics, Psychology, Religion, Sociology, Spanish, and Zoology. As soon as the demand justifies it, complete sequences will be added in other departments. In the Department of Education complete sequences of work for the Master's degree are offered in the divisions of public school administration, public school supervision, secondary education, educational psychology, and elementary education.

In all departments a graduate student must select his minor with the approval of the department of his major. Specific regulations and suggestions of the various departments in regard to this matter are given in this bulletin under "Courses of Instruction." All degree candidates are expected to choose their courses according to some unified plan. The mere accumulation of more or less unrelated credits in various divisions of a department with a minor in some department only remotely related
to the student's major work will not be accepted as meeting the requirements for a graduate degree. From the very beginning of their graduate work students should plan their program with their major professor. Each succeeding term they should select their courses with the advice of their major professor and the approval of the department concerned and of the Dean of the Graduate School.

## ENROLLMENT IN THE SUMMER SESSION

The Summer Session makes available the facilities of Duke University to those persons who can use them to good advantage and for serious purposes. Candidates for degrees, graduate and undergraduate, will be admitted on the same basis as they are admitted to Duke University for work during the regular session. Applicants who do not desire to matriculate for a degrec may be admitted as unclassificd students upon presentation of satisfactory evidence that they are qualified to do satisfactory work in the courses which they may clect to pursue.

Undergraduates-Undergraduate students now enrolled in Trinity College or the College of Engineering should enroll for the Summer Session just as they do for classes in the regular year. They should go to the office of Dean H. J. Herring and obtain the proper blank for enrollment and have their programs approved when they enroll. Undergraduate students now enrolled in the Woman's College should obtain the enrollment blank from Dean Hazen Smith and have their programs approved by her.

Men who desire to enter Duke University, either as Freshmen or undergraduates with advanced standing, should make application to Dean H. J. Herring. Duke Station, Durham, N. C. Women desiring to enter either as Freshmen or undergraduates with advanced standing, should apply to Mrs. W. S. Persons, Chairman of the Committee on Admissions for the Woman's College, College Station, Durham, N. C.

Other undergraduates, men or women, Freshmen or upperclassmen, who desire to enter as unclassified students and who are already admitted or enrolled at another institution, should apply to Paul H. Clyde, Director of the Summer Session, Duke University, Durham. N. C. Students already matriculated in another institution should ask for the Course Approval Blank for use in securing the approval of the Dean of their school for the courses they elect and for use in transferring their credits back to the institution in which they are matriculated. Applicants who are entering college for the first time should have the institution in which they will be enrolled for the regular year submit to the Director of the Summer Session a certificate of admission.

Teachers in service who do not hold a Bachelor's degree but desire to attend the Summer Session in order to earn credits towards the renewal or the advancement of their certificate and who do not wish to become candidates for a degree from Duke University should apply to Paul H.

Clyde, Director of the Summer Session, Duke University, Durham, N. C., and have sent to him a transcript of their undergraduate college record. In some cases the presentation of their teaching certificate will be sufficient evidence for admission. Teachers who wish to matriculate for a Bachelor's degree will apply for admission to the appropriate persons as indicated in the preceding paragraphs.

Graduates-Applicants who wish to earn credits toward the renewal of their certificates or who wish to curoll for certain courses on the graduate level and who do not plan to matriculate for a graduate degree may be admitted to the Summer Session as unclassified graduate students. These should apply to Paul H. Clyde, Director of the Summer Session, Duke University, Durham, N. C., and should have sent to him a transcript of their undergraduate and previous graduate work. This is necessary in order that such students may be admitted to courses in which regularly matriculated graduate students are enrolled.

All applications for admission to the gradnate school shonld be made as early as possible in order to allore ample time for obtaining transcripts and for eraluating credentials. Decisions on applications that come in after June 1 in all probability cannot be reached until after the opening of the Summer Session.

## REGISTRATION

Registration days for the three summer terms are:
First term: Tuesday, June 13.
Second term: Wednesday, July 5.
Third term: Saturday, July 22.
Students now in residence in Duke University should pre-enroll for Summer Session courses on dates set by their respective colleges. Fees are payable at the Treasurer's Office after May 20 or on registration day.

Students not now in residence are urged to submit by mail their applications and to select their courses for approval on the application form (see final pages of this Bulletin) at the earliest possible date. Fees may be paid in adrance by mail after the application has been accepted and courses approved, or in person on registration day:

All students will complete their registration on registration day (secure class enrollment cards, schedules of classroom assignments, recreation card, etc.).

A student may not be admitted to a class and receive credit for the course later than the fifth day after the class begins. Late entrance to zlass is not adrised, and the days missed are counted as absences. If
during the term more than four absences are incurred in any course, full credit for the course cannot be obtained. Applicants may register for the short term courses of three, four, and five weeks, which do not begin when the regular terms begin, at any time prior to the day on which class work starts. Students who find it impossible to reach here on the day before these courses start may enter their class at the first session and complete their registration after class has adjourned for the day.

Candidates for graduate degrees must register their courses in the Graduate School office at the beginning of each term of their residence at Duke University. This registration is in addition to the registration in the Summer Session office. Before reporting for registration in the Graduate School office, students should have their courses endorsed by the Director of Graduate Studies in the department of their major subject. Any one registering in the Graduate School after the close of the Summer Session registration period will be charged a late registration fee of five dollars.

## ADMISSION TO GRADUATE COURSES

Applicants who wish to matriculate for a graduate degree should apply directly to The Dean of the Graduate School, Duke University, Durham, N. C., for a graduate school application blank. When such applicants have been admitted, the Summer Session Director will send the proper blank for the reservation of a room and course enrollment.

A student who has received the A.B. or B.S. degree from an institution of recognized standing for a four-year undergraduate course may be admitted to take graduate courses in the Graduate School of Arts and Sciences of Duke University, provided that his undergraduate record gives positive evidence of ability to undertake graduate study successfully. An average grade of not less than " $B$ " is ordinarily accepted as evidence of such ability.

All new applicants for admission to graduate courses are now required to take the Graduate Record Examination before they can be admitted. In cases where it is not possible to take the Examination before arrival at Duke University and where the transcript of work taken elsewhere clearly shows that the student is otherwise eligible, the Examination may be taken after the student's arrival. Students may make their arrangements for taking this Examination directly with the Educational Testing Service, Box 592, 20 Nassau Street, Princeton, New Jersey. Examinations are conducted several times each year at centers distributed throughout the United States and Canada, and wherever possible students should apply to such a center for the Examination. Admission to graduate standing is marked "provisional" until a satisfactory Graduate Record report has been made. Such a provisional listing may be permitted for the first Summer Session only.

A candidate for admission to graduate courses should ask the proper officer of the college, or colleges, he attended to send directly to the Dean of the Graduate School an official transcript of his undergraduate record. An advanced student should provide also a transcript of the graduate work
completed by him. Students who have attended more than one college or university should note that certification by one institution of work completed at another institution cannot be accepted. In no case will a transcript presented by the candidate himself be accepted as a basis for admission, nor will a transcript mailed by any institution be returned to the student.

All applications for admission to the Graduate School should be made as early as possible in order to allow ample time for obtaining transcripts and for evaluating credentials. The application and supporting credentials should be submitted to the Graduate School at least fifteen days before the applicant proposes to enter courses; otherwise he may have to enter tentatively and as an unclassified student.

After twelve semester hours of graduate work for which a student is registered in the Graduate School office, the student may apply for formal admission to the Graduate School, and thus become a candidate for the Master's degree. Such admission is dependent upon the fulfillment of two conditions. (1) The student must have made a mark of "G" or "Good," in at least three semester hours of work, with no mark less than "S." Candidates who cannot meet this condition may at a later time submit their records for re-evaluation, provided that in their subsequent work they shall have made a substantial number of "G's."* (2) The student in his undergraduate work must meet substantially the requirements for the A.B. or B.S. degree at Duke University. $\dagger$ Any deficiencies of undergraduate work must be satisfied before admission to the Graduate School. The graduate courses taken at Duke University prior to formal admission to the Graduate School will count toward a higher degree provided they are in accord with the requirements and are acceptable to the department of the student's major. A graduate student may be requested to withdraw from the University at the discretion of the Dean of the Graduate School.

## DEGREE OF MASTER OF ARTS

Language Requircments-Candidates for the degree of Master of Arts are required to have a reading knowledge of at least one foreign language. The various departments have the right to recommend specific languages that are acceptable to them. The candidate may satisfy the foreign language requirement either by examination or by transcript showing the completion of the third college year of the language, or he may satisfy the requirement by transcript showing the completion of the second college year in each of two acceptable languages. This requirement must be satisfied before the candidate will be allowed to take his thesis examination.

[^6]Major and Minor Subjccts-As a prerequisite to graduate study in his major subject, a student must have completed a minimum of twelve semester hours of approved preliminary courses in that department and twelve additional semester hours either in that department or in related work. Many departments require eighteen semester hours of undergraduate credit. The student should read carefully the special requirements listed by his department.

To obtain the degree of Master of Arts, a candidate must complete satisfactorily twenty-four semester hours of graduate courses and a thesis. (The student who takes more than fifteen semester hours of work in the Summer Session must complete a total of twenty-seven semester hours of course work and a thesis.) The credit for the thesis is six semester hours. Each candidate for the degree must select a major subject, in which the minimum requirement is twelve semester hours and a thesis. A candidate must take six semester hours of graduate work in a minor outside of his major but approved by the department, and the remaining six semester hours in the major or minor fields, or in a department approved by the department of his major and by the Graduate School Council. No undergraduate course may be credited toward the degree of Master of Arts.

Residence Requirements-The minimum residence requirement of candidates for the Master's degree is one academic year. Often a longer period of residence will prove necessary. Those students who take more than fifteen semester hours of courses in the Summer Session must fulfill a minimum residence requirement of thirty-three weeks.

Not more than six semester hours of course credit toward the Master's degree may be given to candidates for the Master's degree for acceptable graduate courses or for research work completed elsewhere. Such credit does not shorten the minimum period of full-time residence work required at Duke University. However, with the approval of the department of the student's major and of the Dean of the Graduate School, the student with such credit may be permitted to take six semester hours of required undergraduate training, six semester hours of required language, or to register for mine or twelve hours of thesis research instead of the usual six semester hours. No credit toward advanced degrees is given for University extension or correspondence courses.

All the work offered for the Master's degree, whether in the regular academic year or in Summer Session, must be completed within a period of six years from the date of beginning. A student who expects to complete the work for his Master's degree in the Summer Session should file in the Graduate Office a statement of his intention to complete the work. This statement should be filed during the first week of the term in which the student expects to complete his requirements.

Thesis-The title of the thesis required in partial fulfillment of the requirements for the degree of Master of Arts (or Master of Education) must be filed with the Dean of the Graduate School on or before July 1 of the summer in which it is expected that the degree will be conferred. The subject must receive the written approval of the Director of Graduate

Studies of the department in which the candidate has his major field of work and also of the professor under whose direction the thesis is being written.

Four (or, at the discretion of the department concerned, three) bound typewritten copies of each thesis must be submitted to the Dean of the Graduate School in approved form at least one week before the date proposed for the thesis examination. All copies of the thesis should be brought to the Graduate Office before distribution to the examining committee. The examining committee is composed of three members of the Graduate Faculty appointed by the Dean of the Graduate School after consultation with the professor directing the thesis. Each candidate for the Master of Arts degree is required to appear before his examining committee for a final examination, which will approximate one and onehalf hours in length and will be on the thesis and major field. When the candidate's thesis has been approved by the examining committee, the original and one carbon copy will be endorsed by the committee and returned to the Dean of the Graduate School, who will deposit them in the University Library.

## DEGREE OF MASTER OF EDUCATION

The degree of Master of Education is granted to teachers or others engaged in educational work, upon completion of the prescribed program of study. Before candidates may be admitted to graduate study for the degree of Master of Education they must have completed a minimum of eighteen semester hours of approved undergraduate work in education, including courses in educational psychology and in the history of education, or educational sociology, or school administration. To be accepted as candidates for the degree, students must early in their residence (1) make a satisfactory score on a test of general ability and (2) demonstrate by examination that they can write acceptable English. In addition, they must have had two years of practical experience in teaching when the degree is conferred. This experience may be obtained at any time prior to entering upon candidacy for the degree, or it may be obtained concurrently with the period of study for the degree.

The degree of Master of Education may be earned either with or without a thesis.

Requircments Without Thesis-Students who elect not to write a thesis must earn thirty semester hours of course credit (thirty-three in the Summer Session). Twelve of these hours must be chosen from the four basic required courses, Education 204, 210, 217, and 235. Exemption from not more than two of the four basic courses will be allowed students who can by examination show that they already possess adequate knowledge of the subject matter of the courses omitted. Such students must, however, substitute other courses for those from which they are excused, thus still earning the minimum of thirty (or thirty-three) semester hours of course credit. Toward the end of their residence students must also pass a comprehensive examination on the content and inter-relationships among these four courses. Before taking this examination students must obtain
the approval of the Director of Graduate Studies in Education and, three weeks before its announced date, must file a notice of their intention to take it.

In addition to these twelve semester-hours of credit in the four basic courses, the student must have credit in a departmental major of at least twelve semester hours and credit in an extradepartmental minor of at least six semester hours. Educational psychology may count in the minor when the major is elementary education or public school supervision. Toward the end of their residence students must stand a comprehensive examination on their departmental major.

Requirements With Thesis-Students are permitted to substitute a thesis for six semester hours of course credit, provided (1) that in the first fifteen hours of their work (twelve in the Summer Session) they earn a "G" record on at least six hours, and (2) that they present a thesis subject that has been approved by the member of the staff in Education who will supervise the thesis as well as by two other members of the staff. Two of the three faculty members approving the subject must be resident members of the staff in Education.

Besides the thesis, students must earn twenty-four semester hours (twenty-seven in the Summer Session) of course credit. Six of these hours must be earned by taking any two of the basic courses, Education $204,210,217$, and 235 . Thesis students are exempted from the comprehensive examination which is required of non-thesis candidates. Of the remaining eighteen semester hours (twenty-one in the Summer Session), six hours must be taken in some department other than Education. The other twelve (or fifteen) are taken in the department of the student's major. All other requirements, such as those relating to residence, preparation of thesis, thesis examination, etc., are the same as for the degree of Master of Arts.

## EXAMINATIONS

Final examinations in courses are held on the two last days of each term. Final examinations for short courses which occupy the student's complete program will be held on the last day of each course. The examination dates for the three terms are:

First term: July 21-22.
Second term: August 11-12.
Third term: August 30-31.
Courses in science which begin after the opening date for the first term have been scheduled so that their final examination will come on July 22. The second half of the science courses which begin July 24 and run for four weeks will have their final examination on August 19. Final examination for Physics S52 will be on August 26. The University has no provision for giving examinations in absentia. Students absent from examinations for valid reasons are permitted a liberal extension of time to return to the University for completion of credit.

The qualifying examination for the Master of Education degree will be held on Saturday, July 8, 9:00 a.m. to 1:00 p.m., Room 2D, West Duke Building.

The comprehensive examination for the Master of Education degree will be arranged to suit the convenience of the students concerned in so far as is possible. Dates for these examinations will be set after the candidates have notified the Co-Director of the Summer Session as to the time when they will be ready to take the examination. Only those who have completed the four basic required courses are eligible for this examination.

Students who have completed the course work in their professional major may take the examination on Saturday, July 8, 9:00 a.m. to 1:00 p.m., or at a later date fixed by arrangement with the Co-Director of the Summer Session.

Students who have completed the course work in their minor subject may take the examination Saturday, July 8, from 2:00 to 5:00 p.m., in Room 2D. West Duke Building, or at a later date fixed by arrangement with the Co-Director of the Summer Session. The minor examination is not required of any student who has passed the qualifying examination. Since June 1, 1945, the qualifying examination has been required of all candidates for the Master of Education degree. Students who enrolled prior to that date are permitted to substitute the qualifying examination for the minor examination upon approval of the Director of Graduate Studies in the Department of Education.

Any student who expects to take any of these examinations during the Summer Session should notify A. M. Proctor, Co-Director of the Summer Session, at least a week before the date set for the examination and at least two weeks in advance if he expects a special examination date to be arranged. A student who expects to take the comprehensive examination at any time during the Summer Session should notify A. M. Proctor during his first week on the campus.

The date and place of holding a student's examination upon his thesis will be arranged by the chairman of the student's thesis committee after consultation with the Graduate School office.

## LIVING ACCOMMODATIONS

Rooms-In all dormitories the rate of room rent is $\$ 21.00$ for each student, where two students occupy a room. There are a limited number of single rooms available at the rate of $\$ 30.00$ for the six weeks. Graduate and undergraduate students will be assigned to separate dormitories in so far as this is possible. More mature undergraduates may be assigned to dormitories for graduates.

Occupants of University rooms furnish their own bed linen, blanket, pillow, and towels. All other essentials are furnished by the University.

There is no dormitory available for married students whose wives accompany them. Frequently, when both the husband and wife are enrolled in the Summer Session, the husband will room in the men's dormitory and the wife in the women's dormitory. Children are not admitted
to the dormitories. Available apartments in town are often listed in the Summer Session office. This list will be sent upon request.

Applications for room reservations, accompanied by the full amount of room rent for the term concerned, should be made directly to the Housing Office. Applications for rooms on the East Campus and in the Spanish House slould be sent to Miss Mary Grace Wilson, College Station, Durham, N. C. Applications for rooms on the West Campus and at the Marine Laboratory should be sent to Mr. W. E. Whitford, Duke Station, Durham, N. C. Room assignments for the first term will be made beginning about May 1. In order to be sure of a reservation requests should be mailed in promptly. Applicants should be sure to express their preference as to roommate, if they have a preference. Room assignments for the second term will not be made until about June 25, and for the third term, July 15.

Rooms rented from the University will not be available for occupancy for the first term before 9:00 a.m., Monday, June 12; for the second term before 9:00 a.m., Tuesday. July 4; and for the third term before 9:00 a.m., Friday, July 21. Room assignments are made with the understanding that the student is expected to vacate the room at the end of the term within twenty-four hours after his last examination begins.

Students living on the campuses and occupying University dormitories during the Summer Session are governed by the same rules and regulations as apply to students during the regular year.

Dining Halls-The cafeterias and Oak Room, located in the Union on the West Campus, will be open throughout the Summer Session. The cafeteria in the Union on the East Campus will be open for the first nine weeks beginning with the evening neal Monday, June 12, and ending August 12. Meals are on a casli basis and range from $\$ 1.50$ to $\$ 1.75$ per day depending upon the needs and tastes of the individual.

Arrangements may be made in the Office at the Dining Halls to have books of script issued to a student and the bill sent to the parent.

A special dining liall, where only Spanish will be spoken, will be provided in Southgate Dormitory for the students of the School of Spanish Studies.

## MEDICAL CARE

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated students of the University, during the Summer Session, at no additional cost to them beyond the medical fee of $\$ 3.50$ for each six-weeks term of residence, or any shorter period. This service is under the direction of the University Physician with the cooperation of the staffs of the infirmaries and the University Hospital. It includes hospitalization for a maximum period of six days, medical and surgical care, drugs, dressings, X-ray work, and ward, but not special nursing. Kefraction of eyes, treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernias, elective surgery, chronic skin conditions, endocrine disturbances, etc., or accidents or illness occurring during vacations or while off the campus, are not in-
cluded in this service. The cost of braces and necessary orthopaedic appliamces and of blood, as well as special nursing, must be borne by the student. A charge for board will be made of the student while he is in the hospital. All necessary telephone and telegraph charges will be borne by the student.

No illness is treated in dormitory or other rooms occupied by students. Students needing treatment for minor medical or surgical conditions have the attention of the Director of Student Health at his two daily visits to the infirmaries, which have day and night nurses on duty. Students developing serious conditions are promptly transferred from the infirmaries to the University Hospital, where they come under the care of the staff of the hospital. For admission to the hospital a student needs to present the receipt for his registration fees or a certificate from an official of the Summer Session as evidence that he is matriculated in the Summer Session and entitled to hospitalization.

## FEES AND EXPENSES

A registration fee of $\$ 20.00$ is charged to all students carrying the normal program of six semester hours. When the program carried is four semester hours or less, the fee is $\$ 10.00$. The regular tuition fee is $\$ 8.00$ for each semester hour. Teachers in active full-time service in schools and colleges are, upon proper application, allowed a tuition scholarship rebate amounting to one-half of the regular tuition, for not more than four terms of six weeks within a period of six years. After their fourth term teachers pay regular tuition charges. (Application for this scholarship rebate should be made to the Director of the Summer Session in advance of regristration.) Graduate students completing the work for the Master's degree in the Summer Session will pay a fee of $\$ 25.00$ for thesis supervision and/or for examinations. Because of the extra services rendered, a special fee of $\$ 10.00$ is charged students enrolled in the School of Spanish Studies, and a $\$ 10.00$ laboratory fee is charged students enrolled in the Marine Laboratory.

Major expenses for a six-weeks term are estimated as follows:
Registration . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 20.00$
Tuition (deduct $\$ 24.00$ for teachers in active service) ................... 48.00
Medical service ...................................................................... 3.50
Room-rent . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 30.00$ or 21.00
Board, estimated: ample $\$ 90.00$, minimum ................................. 60.00
Special fee for School of Spanish Studies or Marine Laboratory ....... 10.00
Books and class materials .......................................... $\$ 7.00$ to 10.00
Bus fare, laundry, and miscellaneous expenses range from ...... $\$ 9.00$ to 15.00
The minimum expenses for teachers who receive the scholarship rebate should be approximately $\$ 150.00$. Maximum expenses will range up to $\$ 200.00$ or possibly $\$ 225.00$.

## THE SCHOOL OF SPANISH STUDIES

The ninth annual session of the School of Spanish Studies will be held during the first term, June 14 to July 22. The courses offered will include undergraduate work of the first three years and advanced oral

Spanish, as well as graduate work in Spanish and Spanish-American literature. There will be liberal opportunity for speaking the language, hearing lectures, holding discussions, and attending evening programs all conducted in Spanish. Students of the School of Spanish Studies will live in the Residence, Southgate Hall on East Campus. Here only Spanish will be spoken. A private dining-room in the Residence will be used on all clays except Sundays, when facilities will be available in the East Campus Union. A member of the staff or a native Spanish-American assistant will be assigned to each table to lead the conversation.

During the Summer Session courses in Spanish are given only in the School of Spanish Studies. An applicant, however, may register for one course in the School of Spanish Studies and another course in some other department. In this case the registrant is a member of the Spanish School student body and is privileged to live and eat in the Spanish House. When it appears necessary for such a student to live elsewhere, this may be arranged by permission of the Director of the School.

The School of Spanish Studies is intended to offer to students and teachers an opportunity for intensive training in the knowledge and use of the Spanish language. It is designed to provide a basic orientation in the literature and cultural background of the Hispanic world. In addition to the regular staff of Duke University, visiting professors and lecturers of note have been engaged. Assistants from Latin America whose native language is Spanish have been secured to aid students in pronunciation and intonation and to give instruction in the cultural mores of Latin America. Because of special facilities provided in the School of Spanish Studies, a fee of $\$ 10.00$ is charged but all other expenses are the same as in other parts of the Summer Session.

The work is intended for the following groups of persons:

1. High-school and college teachers who need review or further training and orientation for their professional equipment;
2. College teachers who wish to pursue advanced studies in Hispanic literature or cultural history :
3. Graduate students with a major or minor in Spanish ;
4. Prospective teachers of Spanish and specialists in other fields (business, government service, history; etc.) whose work may require a knowledge of Spanish:
5. Undergraduates who are majoring in Spanish;
6. Undergraduates who plan to fulfill their requirement in foreign language by courses in Spanish and who desire more than a reading knowledge of the language.

For details of the School of Spanish Studies, write the Director of the Summer Session for special Bulletin. The course offerings of the School are listed in this Bulletin in the "Courses of Instruction" under Spanish.

## INSTITUTE FOR TEACHERS OF MATHEMATICS

The Institute for Teachers of Mathematics will hold its tenth annual session August 7-18 inclusive. The theme of the Institute is "Mathematics
at Work." There will be morning, afternoon, and evening meetings each day of the Institute. Applications of mathematics to current problems in industry and science will be stressed. Lecturers of recognized ability in industrial research and teachers of note have been secured. Approximately eight study groups will be arranged under the leadership of outstanding teachers.

The Mathematics Laboratory now being established at the University will provide helpful materials and suggestions for the members of the Institute. The registration fee will be $\$ 10.00$. Those who so desire may secure a room in the University dormitories at $\$ 1.50$ per day. Meals may be secured in the University dining halls, cafeteria style. A separate folder containing full details and program of the Institute will be ready for distribution about April 15. For further information write the Director of the Summer Session or W. W. Rankin, Director of the Mathematics Institute, Duke University, Durham, N. C.

## THE INSTITUTE OF NURSING EDUCATION

In addition to the courses in Nursing Education, this summer there will be held for the fourth year an Institute of Nursing Education. The Institute will be held for a period of one week, July 24-29. The program will deal with "Improving Nursing Care Through an Effective Clinical Teaching." Nurses who wish to attend the Institute should write to Miss Dorothy Smith, Acting Director of the Division of Nursing Education, Duke Hospital, Durham, N. C., for an application blank. The fee for the Institute is $\$ 5.00$. A room may be secured in the nurses' residence hall at $\$ 1.50$ per day. Meals may be secured in the University dining halls, cafeteria style, at very reasonable prices. For detailed information write to the Director of the Summer Session, College Station, Durham, N. C.

## RELIGIOUS SERVICES

Religious services are held each Sunday morning at eleven o'clock in the University Chapel on the West Campus. Choral music for these services is provided by a voluntary student choir of which Mr. J. Foster Barnes is the director. Summer Session students with vocal talent are invited to join this group. In the past students have found their participation in the choir very enjoyable. The pulpit is usually occupied by a regular University preacher, or a special visiting preacher.

## 1950 Summer Preaching Schedule

[^7]23 The Reverend Professor James T. Cleland, Preacher to the University.
30 Bishop W. W. Peele, Southeastern Jurisdiction, The Methodist Church, Richmond, Virginia.
August 6 The Reverend W. A. Stanbury, District Superintendent, Gastonia District, The Methodist Church.
13 Dr. J. H. Phillips, Director of Religious Activities, Duke University.
20 The Right Reverend Edwin A. Penick, Bishop of the Diocese of North Carolina, The Episcopal Church.
27 The Reverend T. R. Milford, Chancellor of Lincoln Cathedral, England.

## SUMMER SESSION RECREATION

The recreation program of the Summer Session will be in charge of Mr. W. S. Persons, assisted by Mr. R. B. Fearing. The program of intramural sports has been an enjoyable part of former Sunmer Sessions. The swimming pools, tennis courts, handball courts, volleyball courts, and other playing fields are open to Summer Session students without charge. Organization of students by state groups is encouraged. These groups arrange pienics, field trips, and other social activities which add much to the enjoyment of Summer Session attendance. A special feature of past summers has been the Sunday evening open-air sing. Stunts and special features arranged by various student groups add much to the enjoyment of these affairs. Informal dances are held each week end in the gymnasium.

## APPOINTMENTS BUREAU

A Teachers' Appointments Bureau is maintained in Room 103, Page Building, the year around. The service of this Bureau is available to teachers registered in the Summer Session who may desire a change of position and to school officials who may be seeking the services of new teachers. There is no charge for this service.


# COURSES OF INSTRUCTION 

## EXPLANATIONS AND ABBREVIATIONS

Classes meet daily five times per week, Monday through Friday, for six weeks unless otherwise indicated. Where a course is conducted for a shorter period than the usual six weeks, the dates for the courses are shown in italics following the course description. For most courses the regular daily period lasts for eighty minutes, and such courses carry three semester hours of credit. This is indicated by the abbreviation " 3 s.h." A few courses may meet for two regular periods daily or may meet for a sixty-minute period. In such cases the courses will carry more or less credit. The credit hours allowed for each course are indicated under the description of the course. The numbers given courses offered in the Summer Session are the same numbers used in describing courses in the regular term, with the letter "S" preceding; for example, English S1 in the Summer Session would correspond to English 1 of the regular term. The campus on which a class is held is indicated by (w) for the West Campus and ( E ) for the East Campus.

The four daily periods of the Summer Session are designated as periods $\mathrm{A}, \mathrm{B}, \mathrm{C}$, and D . The hours of these periods are as follows:

Period A-From 7:40 A.M. to 9:00 A.M.
Period B-From 9:20 A.M. to 10:40 A.M.
Period C-From 11:00 A.M. to 12:20 P.M.
Period D-From 1:40 P.M. to 3:00 P.M.
The term in which a course will be given is indicated by "I" for the first term, June 14 to July 22; by "II" for the second term, July 6 to

- August 12; and by "III" for the third term, July 24 to August 31. A schedule of the hour and place of meeting for the various courses will be found posted on the bulletin boards prior to the opening of each term. Copies of these schedules may also be obtained from the Summer Session Office or from the offices of the deans of the various schools.


## MINIMUM ENROLLMENT REQUIRED FOR COURSES

All courses are offered tentatively and subject to minimum enrollments. The University reserves the right to withdraw undergraduate courses in which fewer than twelve students enroll, graduate courses numbered 200-299 in which fewer than ten students enroll, and graduate courses and seminars numbered 300 or above in which fewer than six students enroll. In withdrawing a course, the University attempts to avoid undue hardships on students. Sometimes, therefore, courses are offered in spite of small enrollments. Some courses not listed will be given when a demand develops and an instructor is available. Some instructors, otherwise not in residence, will permit students who wish to complete theses begun during the academic year to enroll in the Summer Session.

Such students must present a written request from the supervising instructor to the Dean of the Graduate School and must make an application for enrollment in the Summer Session. If accepted for registration, they will pay the regular Summer Session fees. A graduate student who desires to pursue an individual research or laboratory project during the Summer Session under the supervision of the department concerned may register and obtain residence credit. In this case his fee will be $\$ 10.00$ per semester hour credit.

## DEPARTMENT OFFICERS AND REGULATIONS

Departments offering Summer Session programs are listed alphabetically. Under each department is given the name of the chairman and, for those departments now offering in the Summer Session a full sequence of courses leading to the Master's degree, the name of the director of graduate studies is added. Where departments have set up special regulations for admission to candidacy for the Master's degree, these are usually included.

## BOTANY

professor hugo l. blomouist, chairman-203 biology building (west campus) ; professor paul j. kramer, director of graduate studies- 04 biology building (west campus)

For admission to candidacy for the Master's degree in Botany, students must have completed a minimum of eighteen semester hours of biological science, including six semester hours of Botany in courses numbered above 100. Students who have not yet had the minimum eighteen hours, however, may enter higher courses by permission of the instructor, if he is convinced that they can carry the work for undergraduate credit, and may count such work toward the eighteen hours necessary for candidacy.

S225. Special Problems.-Hours to be arranged. June 14-August 31. (w) Staff

S235. Introduction to Field Botany.-A survey of the ferns and seed plants of the Piedmont; practice in identification; regular field trips to learn the common as well as rarer species in their native habitats. Prerequisite: one year of botany or equivalent. Lectures and field trip or laboratory daily, morning and afternoon, I (first three zeceks). 3 s.h. (w) Mr. Anderson

Note: This class consumes the entire day for the first three weeks and therefore conflicts with all other courses offered. It carries graduate credit provided S236 is also completed for graduate credit; otherwise undergraduate credit only.

S236. Field Botany.-A continuation of Botany S235, with field work extended to include a wide variety of vegetation. Experience in the identification of the more difficult families, collecting and preserving specimens, the keeping of records and use of the herbarium. Prerequisite: S235 or equivalent. Classes daily, morning and afternoon, I (second three zeeeks). 3 s.h. (w)

Mr. Anderson
S359. Research.-Hours to be arranged. June 14-August 31. (w) Staff
Courses following given at the Marine Laboratory, Beaufort, N. C. (Write for special bulletin of the Duke University Marine Laboratory.)

S211. Structure and Classification of Algae.-Structures and life histories of algae with emphasis upon marine forms, the principles underlying their classification, their ecology, and economic importance. Collecting, identifications and preservation for the herbarium and morphological study. July 24-August 31. 6 s.h.

Mr. Williams
This course will be given only if there is sufficient demand.
S225. Special Problems.-Hours to be arranged. June 14-August 31. Mr. Blomquist, Mr. Williams
S359. Research.-Hours to be arranged. June 14-August 31.
Mr. Blomquist, Mr. Williams

## CHEMISTRY

professor john h. Saylor, executive officer of the department-115a
ChEMISTRY bUILDING (WEST CAMPUS) ; PROFESSOR WARREN C. vOSburgh, director of graduate studies- 211 chemistry building (west campus)
All first term courses in the Department of Chemistry will begin on Monday, June 26, and continue through Friday, July 21. All second term courses will begin on Monday, July 24, and continue through Friday, August 18. A course in chemistry constitutes a student's full program and occupies his entire time during each school day.

S1. General Inorganic Chemistry.-Elementary principles of chemistry, the occurrence, preparation, properties, and uses of the elements and their compounds. $A, B$, and $C, I .4$ s.h. (w)

Mr. Wilder
S2. General Inorganic Chemistry.-A continuation of S1. Prerequisite: Chemistry S1. $A, B$, and $C, I I I .4$ s.h. (w)

Mr. Powell
S61. Fundamentals of Analytical Chemistry.-A study of the relations of electrolytes in solution and of chemical equilibrium illustrated by laboratory experiments involving the techniques of gravimetric, volumetric, and colorimetric analysis. Prerequisites: Chemistry 1-2 and Mathematics 6 or equivalent. $A, B$, and $C, I .4$ s.h. (w)

Mr. Saylor
S151. Organic Chemistry.-An introduction to the study of carbon compounds. Compounds of the aliphatic series form the basis of lectures, discussions, and laboratory experiments. Prerequisite: Chemistry $61 . A, B$, and $C$, I. 4 s.h. (w)

Mr. Bradsher
S152. Organic Chemistry.-A study is made of compounds of the aromatic series and of carbohydrates and proteins. Prerequisite: Chemistry 151. $A, B$, and C,III. 4 s.h. (w)

Miss Brown
S275. Thesis Research.-Research in the fields of physical, analytical, inorganic, or organic chemistry. Open to those students whose research programs for the A.M. or Ph.D. degrees have been approved by the department and by one of the instructors in charge of the course. Schedule to be arranged. (Not more than one semester hour of credit per week for full-time schedule or one semester hour each two weeks for half-time schedule.) 2 to 8 s.h. (w)

Staff

## ECONOMICS

professor frank t. de vyver, executive officer of the department-203j social science building (west campus) ; professor joseph J. Spengler, director of graduate studies- 322 library building (west campus)
S51. Principles of Economics.-A short course in the essential principles of economic science. (This course will not count as a part of the minimum
economics requirements for graduation until the equivalent of S52 has been completed. It will, however, count as elective credit.) $A, I$, and $I I I .3$ s.h. (w)

I Mr. Saville
III Mr. McKenzie
S52. Principles of Economics.-A continuation of Economics S51, emphasis on economic problems. $D, I I I .3$ s.h. (w)

Mr. Simmons
S57. Principles of Accounting.-Elementary principles of single proprietorship,, partnership, and corporation accounting. $A, B$, and $C$, June 14July 1. 3 s.h. (w)

Mr. MacMillan
S58. Principles of Accounting.-A continuation of Economics S57. A, $B$, and C, July 5-22. 3 s.h. (w)

Mr. MacMillan
S103. Transportation.-Essential features, problems, and competitive positions of rail, highway, air, and inland-water transportation, with most emphasis on rail transportation. Special attention is given to the economic significance of transportation, and to cost factors, rates and their economic effects and regulations. C, $I .3$ s.h. (w)

Mr. Landon
S115. Economic Geography: Teachers' Course.-A study of the interrelation of human activities and environmental elements. The discussion embraces location, maps and their interpretation, the major climatic regions, seasonal influences, weather, lands and their uses, soils, and minerals, bodies of water, plants, animals, and the works of man, as environmental factors. $A, I$. 3 s.h. (E)

Mr. Lemert
S116. Economic Geography and Industrial Organization.-A study of the economic resources and industries of the world: a general appraisal of the natural and the cultural environment; agricultural and manufacturing industries and their location; the conservation of natural resources; world aspects or resource ownership and utilization. $B, I .3$ s.h. (e) . Mr. Lemert

Note: Conservation of Natural Resources.-Teachers especially desiring to take courses dealing with the conservation of natural resources are advised to elect S115, or S116. Teachers with good background in geography should elect S116 if they can take only one of the two.

S132. The Economic History of the United States.-A study of the agricultural, industrial, commercial, and financial progress of the United States from colonial times to the present day. Special attention will be devoted to mass production, business cycles, great fortunes, and the relationships between government and business. C, I. 3 s.h. (w)

Mr. Smith
S143.-Corporation Finance.-Principles and problems in the financial organization of corporations; the study of corporate securities, the management of capital, the distribution of earnings; industrial combinations; insolvency and reorganization. (Though not a prerequisite, Economics $57-58$, Principles of Accounting, is recommended to students electing this course.) $B, I$. 3 s.h. (w)

Mr. Joerg
S144. Investments.-A study of the role which the security markets play in American economic life. Attention is devoted to the various types of securities, to the mechanics of their purchase and sale, to the factors which affect and determine their market prices, and to the relationship of stock speculation to the banking system and to general prosperity. Prerequisite: Economics 5758 and $143 . D, I .3$ s.h. (w)

Mr. Joerg
S153. Money, Credit, and Banking.-A study of the nature, characteristics, and functions of money, credit, and the commercial banking system; the history of commercial banking in the United States; the foundation, organization, and functions of the Federal Reserve System; the supervision and control of commercial banks; deposit insurance; and the value of money. C, $I .3$ s.h. (w)

S171. Advanced Accounting.-Advanced accounting theory and practice applied to the managerial problems of valuation and operation in corporations, consolidations, mergers, and liquidations. Open to students who have completed Accounting 57-58. A and C, June 14-July 1. 3 s.h. (w) Mr. Shields

S172. Advanced Accounting.-A continuation of Economics S171. A and C, July 5-22. 3 s.h. (w)

Mr. Shields
S181. Business Law: Contracts, etc.-The fundamental principles of law as applied to common business transactions. A and C, June 14-July 1. 3 s.h. (w) Mr. Hyldburg

S182. Business Law: Partnerships, etc.-A continuation of S181, dealing with agency, bailment, sales, negotiable instruments, partnerships, and bankruptcy. $A$ and $C$, July 5-22. 3 s.h. (w)

Mr. Hyldburg
S199. Economic Analysis.-The study of the theory of price and output with particular attention to the effects of imperfect competition. B, III. 3 s.h. (w)

Mr. McKenzie
S204. Monetary and Banking Theory.-Structure and functioning of monetary and banking mechanism. Particular attention is given to the theoretical basis of monetary management. C, III. 3 s.h. (w) Mr. Simmons

S217. Population Problems and Resources.-A survey of population theory and policy. Study of national and international trends in population-growth and resource-use, together with analyses of their economic and social implications. $B, I I .3$ s.h. (w)

Mr. Spengler
S231. The Economic History of Europe.-The economic development of Europe from medieval times to the present, treating such topics as the guilds, mercantilism, money, banking, crises, the Industrial Revolution, the interrelationships of government and business, and the economic consequences of war. A, I. 3 s.h. (w)

Mr. Smith
S234. Federal Finance.-A study of the expenditures, revenues, and financial administration of the government of the United States, with emphasis on current problems. Special attention given to budgetary procedure, corporate and individual income taxes, and the financial relations between Federal and state governments. Prerequisite: Economics 187 or consent of instructor. $A$, II. 3 s.h. (w)

Mr. Ratchford
S236. Public Finance.-This course deals with public expenditures, public revenues, public debts, and financial administration. $C, I I .3$ s.h. (w)

Mr. Ratchford
S265. International Trade and Finance.-A study of the fundamental principles of international trade and foreign exchange. Subjects covered will include international specialization, balance of payments, foreign investments, tariffs and commercial policies, exchange control, exchange rates, and international monetary problems. $D, I I .3$ s.h. (w)

Mr. Spengler
S275. Advanced Industrial Accounting and Management.-This course traces the ways and means of executive control through statistics and industrial accountancy: Emphasis is put upon the economics of overhead costs. A complete practice set of accounting is worked by each student during the course. Prerequisite: Economics 171-172 and permission of the instructor. $A, B$, and C, June 14-July 1. 3 s.h. (w) Mr. Black

S276. Advanced Industrial Accounting and Management.-A continuation of Economics S275. Prerequisite: Economics S275. A, B, and C, July 5-22. 3 s.h. (w)

Mr. Black
S318X. Thesis Seminar.-Hours to be arranged. I. (w)
Mr. Landon

## EDUCATION

PROFESSOR A. M. PROCTOR, ACTING CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES -1c2 WEST DUKE BUILDING (EAST CAMPUS)
For admission to candidacy for the Master of Arts (A.M.) degree with major in Education, or for the Master of Education (M.Ed.) degree, students must, in addition to meeting the general requirements for admission to the Graduate School, meet the following specific requirements: Credit for (1) eighteen semester hours of acceptable prior work in Education and (2) twelve semester hours of acceptable prior work in a minor field. If Psychology, Sociology, Economics, or Political Science is chosen for the minor, six semester hours of work completed after entering the Junior year in college will be accepted.

Graduate courses in this Department are grouped under the following subdivisions: Public School Administration, Public School Supervision, Secondary Education, Elementary Education, and Educational Psychology. Every candidate for the Master of Arts degree in the Department should elect at least twelve semester hours in one of these divisions in which he plans to write his thesis and the remainder of his work, including the six semester hours in his minor, with the approval of the proper division adviser. Dr. Bolmeier, Dr. Carr, Dr. Proctor, and Dr. Stumpf are advisers to students in School Administration; Dr. Carr and Dr. Proctor are advisers to students in Supervision; Dr. Carr is adviser in Elementary Education; Dr. Bolmeier and Professor Childs are advisers in Secondary Education; and Dr. Easley is adviser in Educational Psychology. Candidates for the Master of Education (M.Ed.) degree should read with special care the regulations of the Graduate School as set forth on pages 17-18 of this Bulletin.

## PUBLIC SCHOOL ADMINISTRATION (GRADUATE COURSES)

In this division, Master's candidates will elect their minor work in Political Science, Economics, or Sociology. Candidates for the Master of Education degree, in addition to the twelve semester hours of the four basic courses, must take twelve semester hours of work from the courses specifically listed under this division or approved by the adviser. (The basic courses are: S204, S210, S217, and S235.)

S203. Principles of School Administration.-An introductory course dealing with the organization and administration of a public school system. June 14-July 1, $A$ and C. 3 s.h. (E)

Mr. Bolmeier
S213. Problems in the Organization and Administration of Elementary Schools.-A study of the work of elementary school principles. June 14July 1, $A$ and B. 3 s.h. (E)

Mr. Proctor
S234. Secondary School Organization and Administration.-A study of the outstanding problems of secondary school organization and administration other than the problem of graduation and classification of pupils. $B, I I .3$ s.h.

Mr. Bolmeier
S283. School Plant Planning.-This course deals with architectural and construction services, school plant design, operation, maintenance and equipment. Emphasis is placed on educational and physical plant planning for public elementary and secondary schools. A, II. 3 s.h.

Mr. Proctor
S323. Public School Finance.-A study of educational costs, sources of revenue for the support of public education, collection of revenue, basis of distribution, and accounting for funds spent. $A$ and B, June 14-July 1. 3 s.h. (E)

Mr. Stumpf
S343. State and County School Administration.-A study of the state and county organization of public schools, emphasizing underlying principles. C, II. 3 s.h. (E)

Mr. Stumpf

S363. City School Organization and Administration.-Problems confronting the administrative officer in local schools, such as relations of superintendent with board and public organization of schools, development of curricular, selection and promotion of teachers, etc. B, II. 3 s.h. (E)

Mr. Proctor
S300X. Thesis Seminar.-I and II. Hours to be arranged. 3 to 6 s.h. (e)
Staff

## PUBLIC SCHOOL SUPERVISION (GRADUATE COURSES)

In this division, Master's candidates will elect their minor work in Psychology or an approved combination with Educational Psychology, or in Sociology. Candidates for the Master of Education degree, in addition to the twelve semester hours of the four basic courses, must take twelve semester hours of work from the courses specifically listed under this division or approved by the adviser. They may take six to nine semester hours of work in their minor.

S204. The School as an Institution.-The place of the school in society, its history and philosophy. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $A, I I$, and $A$ and $B$, August 14-31. 3 s.h. (e)

Mr. Bolmeier
S208A. Mental Tests and Applications.-A study of the development of mental testing; various concepts of the nature and organization of intelligence, and their bearing on the theory and practice of testing; important features of group tests; and recent applications of mental tests. Prerequisite: Education S258 or six semester hours of other work in educational psychology or psychology. B, II. 3 s.h. (E)

Mr. Easley
S222. The Curriculum and Materials of the Elementary Grades.-A study of curriculum problems in the elementary schools. C, II. 3 s.h. (E)

Mr. Hillman
S232, Public School Supervision.-This is the core course for majors in school supervision. The course will be conducted on a work-shop basis and the principal units of study will be selected on the basis of the chief needs of the students enrolled. They will include such topics as principles and techniques of supervision, planning and organizing a program of supervision. Attention will be given to the use and interpretation of tests, materials of instruction, pupil personnel adjustment, and such other areas as members of the class may select. From time to time specialists will be brought in to discuss problems dealing with their field of specialization. $B, I I .3$ s.h. (E)

Mr. Highsmith and Mr. Hillman
S235. The Nature, Function, and Reorganization of the Curriculum.-A study of the fundamental bases for the curriculum, how the curriculum functions in the school program, and the techniques of curriculum construction. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $B$ and C, June $14-J_{u l}$ y 1, and $D, I I .3$ s.h. (E)

Mr. Carr
S237. The Psychology and Teaching of Reading.-A study of the basic psychology of reading and of principles, methods, and materials for the development of the various reading and study skills. Adapted to the needs of teachers of different grade levels. D, II. 3 s.h. (e) Miss Rudisili

S238. Remedial Reading-Principles and Practice.-A study of the basic causes of reading disability and of principles, methods, and materials for the diagnosis and correction of specific difficulties. The course provides practice with grade school children suffering reading retardation, including testing,
diagnosis, and daily remedial teaching during the six-weeks period. A basic course in the psychology or teaching of reading is prerequisite, or Education S 237 may be taken simultaneously. C. II. 3 s.h. (E)

Miss Rudisill
S245. Principles of Guidance.-The nature of guidance. Its need and function in education. Survey of guidance techniques and agencies. Organizing and administering the program. $A, I I$. 3 s.h. (e) Mr. Novak

S255. Guidance and the Classroom Teacher.-Practice of guidance in the classroom, homeroom, and school activities on the secondary level. Group guidance activities. C, II. 3 s.h. Mr. Novak

S273. Problems of High-School Supervision.-A consideration of such problems as aims and purposes of high-school supervision, elements of an effective program of supervision for city and rural schools, the administration of supervision. C, II. 3 s.h. (E)

Mr. Highsmith
S275. The Administration of the Audio-Visual Program.-This course is intended for principals, superintendents, supervisors, and audio-visual coordinators. It deals with the problems of organization and administration of the audio-visual program, the location, selection and good educational use of materials, obtaining good teacher participation, and the selection and care of equipment. $A, I I .3$ s.h. (E)

Mr. Mathewson
S285. The Preparation of Projected and/or Recorded Instructional and Public Relation Material.-This is a laboratory course for experienced school administrators or teachers. The student will be expected to plan and produce audio-visual aids to fit the subject he teaches or supervises. An administrator would plan and produce audio-visual aids for his in-service education or public relations program. Enrollment is limited to fifteen. D, II. 3 s.h. (E)

Mr. Mathewson
S287. Problems of Mentally and Educationally Retarded Children.-The causes, types, and degrees of mental retardation: psychological theories of mental deficiency; the education of slow learners in regular and special classes; the social and eugenical bearings of mental deficiency. The educational problems receive major consideration. $B, I I .3$ s.h. (E)

Mrs. Layman
S288. Problems of Mental Hygiene and Education.-The problems, objectives, scope, factors, and techniques of mental hygiene, particularly with reference to its educational and social implications: the prevention of hampering personality difficulties and development of whr lesome personality; types of adjustment difficulties in different types of childr.ı. especially in the normal, and their preventive and remedial treatment; the mental hygien of the teaching and learning. $C, I I .3$ s.h. (E)
-..ks. Layml:
S372X. Thesis Seminar. $-I, I I$ and $I I I$. Hours to be arranged. 3 to $n$ s.h. (E)

Staff

## SECONDARY EDUCATION (GRADUATE COURSES)

In this division, Master's candidates will elect their minor work in their teaching subject, or in Psychology or Sociology. Candidates for the Master of Education degree are required to elect their minor work in their teaching subject and all of their work in Education must come from courses listed in this division.

S204. The School as an Institution.-The place of the school in societr, its history and philosophy. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $A, I I$, and $A$ and $B$. August 14-31. 3 s.h. (E)

Mr. Bolmeier
S206. Sociological Foundations of Secondary Education.-A consideration of the fundamental institutions of society and the problems of preparing youth
to participate in them. The aims and objectives of the secondary education are considered in the light of the school as the strategic agent for guidance. B, II. 3 s.h. (E)

Mr. Childs
S215. Educational and Vocational Guidance.-A survey of the literature on guidance with special reference to secondary education; a critical study of the principles and techniques used in guidance; an attempt to locate the problems most urgently in need of solution. $B$ and $C$, June 14-July 1. 3 s.h. (E)

Mr. Childs
S216. Psychological Principles of Secondary Education.-A study of adolescence and the psychology of learning as applied to teaching the principal high-school subjects. C, II. 3 s.h.

Mr. Childs
S225. The Teaching of History and the Social Studies.-The work consists of a discussion of the question of aims and values in teaching history and civics, textbooks, programs of study, methods of instruction, the use of maps and pictures, the making of lesson plans for use in high school, and other problems of high-school teaching. (Identical with History S211.) A,II. 3 s.h. (w)

Mr. Manchester
S234. Secondary School Organization and Administration.-A study of the outstanding problems of secondary school organization and administration. B, II. 3 s.h. (E)

Mr. Bolmeier
S246. The Teaching of High-School Mathematics.-Fundamental processes, methods of study, mathematical literature, content of courses, application, use of instruments, correlation of different branches, historical development of secondary school mathematics. (Identical with Mathematics S204.) A, II. 3 s.h. (E)

Mr. Rankin
S276. The Teaching of High-School Science.-Discussion, based upon lectures and collateral reading, of such topics as aims, tests for values, the curriculum, classroom procedure, course and lesson planning. secondary school science. Prerequisite: at least eighteen semester hours of science in college. C, II. 3 s.h. (E)

Mr. Haupt
S334X. Thesis Seminar in Secondary Education.-Schedule to be arranged. $I$ and $I I .3$ s.h. (E)

Mr. Childs

## ELEMENTARY EDUCATIONं (GRADUATE COURSES)

In this division, Master's candidates should take their minor work of six semester hours in Psychology, Educational Psychology, or an approved combination of the two, or in Child Welfare and Development-wholly in Sociology, or partly Sociology and Psychology, or Educational Psychology, if a satisfactory combination can be worked out. Master of Education candidates in this division must take fifteen semester hours of work described or listed under Elementary Education.

S204. The School as an Institution.-The place of the school in society, its history and philosophy. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $A, I I$, and $A$ and B, August 14-31. 3 s.h. (E) Mr. Bolmeier
S208A. Mental Tests and Applications.-A study of the development of mental testing; various concepts of the nature and organization of intelligence, and their bearing on the theory and practice of testing; important features of group tests; and recent applications of mental tests. Prerequisite: Education S258 or six semester hours of other work in educational psychology or psychology. B, II. 3 s.h. (E)

Mr. Easley

S212. Psychology of the Elementary School Subjects.-A study of the psychology of learning as applied to teaching the common school subjects. A,II. 3 s.h. (E)

Mr. Carr
S213. Problems in the Organization and Administration of Elementary Schools.-A study of the work of elementary school principles. A and B, June 1t-July 1. 3 s.h.

Mr. Proctor
S217. The Psychological Principles of Education.-An advanced study of teaching, learning, and the learner. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $B$ and $C$, June $1 t-J u l y$ 1, and $C, I I .3$ s.h. (E)

June 14-July 1 Mr. Jordan II
S222. The Curriculum and Materials of the Elementary Grades.-A study' of curriculum problems in the elementary schools. C, II. 3 s.h. (E) Mr. Hillman
S232. Public School Supervision.-This is the core course for majors in school supervision. The course will be conducted on a work-shop basis and the principal units of study will be selected on the basis of the chief needs of the students enrolled. They will include such topics as principles and techniques of supervision, planning and organizing a program of supervision. Attention will be given to the use and interpretation of tests, materials of instruction, pupil personnel adjustment, and such other areas as members of the class may select. From time to time specialists will be brought in to discuss problems dealing with their field of specialization. $B, I I .3$ s.h. (E)

Mr. Highsmith and Mr. Hillman
S237. The Psychology and Teaching of Reading.-A study of the basic psychology of reading and of principles, methods, and materials for the development of the various reading and study skills. Adapted to the needs of teachers of different grade levels. D, II. 3 s.h. (E)

Miss Rudisill
S238. Remedial Reading-Principles and Practice.-A study of the basic causes of reading disability and of principles, methods, and materials for the diagnosis and correction of specific difficulties. The course provides practice with grade school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six-weeks period. A basic course in the psychology or teaching of reading is prerequisite, or Education S237 may be taken simultaneously. C. II. 3 s.h. (E) Miss Rúdisill

S267. The Teaching of Science in the Elementary School.-This course deals with such topics as aims and values, curriculum materials, classroom procedures, lesson planning, and grade placement for science teaching in the elementary school. A, II. 3 s.h. (E) Mr. Haupt S287. Problems of Mentally and Educationally Retarded Children.-The
causes, types, and degrees of mental retardation: psychological theories of
mental deficiency; the education of slow learners in regular and special classes;
the organization, objectives, curriculum, and teacher of the special class: the
social and eugenical bearings of mental deficiency. The educational problems
receive major consideration. B, II. 3 s.h. (E)

S288. Problems of Mental Hygiene and Education.-The problems, objectives, scope, factors, and techniques of mental hygiene, particularly with reference to its educational and social implications: the prevention of hampering personality difficulties and development of wholesome personality; types of adjustment difficulties in different types of children; especially in the normal, and their preventive and remedial treatment ; the mental hygiene of the teaching and learning. C, II. 3 s.h. (E)

Mres. Layman

S337X. Thesis Seminar in Elementary Education.-Schedule to be arranged. 3 s.h. (E)

## EDUCATIONAL PSYCHOLOGY (GRADUATE COURSES)

The Master of Education degree is not offered in this division. Master of Arts candidates should choose Psychology for their minor subject. It will be observed that certain of the courses listed under Educational Psychology are also listed under Supervision, Secondary Education, or Elementary Education.

S208A. Mental Tests and Applications.-A study of the development of mental testing; various concepts of the nature and organization of intelligence, and their bearing on the theory and practice of testing; important features of group tests; and recent applications of mental tests. Prerequisite: Education S258 or six semester hours of other work in educational psychology or psychology. B, II. 3 s.h. (E)

Mr. Easley
S210. Introduction to Educational Research.-The general purpose of this course is to give the student an overview of research, acquaint him with the nature of research processes, and develop within him an appreciation of the essential characteristics of good research. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $B, I I$, and $B$ and $C$, August 14-31. 3 s.h. (e) Mr. Stumpp

S216. Psychological Principles of Secondary Education.-A study of adolescence and the psychology of learning as applied to teaching the principal high-school subjects. C, II. 3 s.h. (E)

Mr. Childs
S217. The Psychological Principles of Education.-An advanced study of teaching, learning, and the learner. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. $B$ and C, June 14-July 1, and C, II. 3 s.h. (E)

June 14-July 1 Mr. Jordan II
S227. The Psychology of Learning: Problems.-The major problems related to the learning process will be examined, with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. C,II. 3 s.h. (E)

Mr. Easley
S237. The Psychology and Teaching of Reading.-A study of the basic psychology of reading and of principles, methods, and materials for the development of the various reading and study skills. Adapted to the needs of teachers of different grade levels. $D, I I .3$ s.h. (E) Miss Rudisill

S238. Remedial Reading-Principles and Practice.-A study of the basic courses of reading disability and of principles, methods, and materials for the diagnosis and correction of specific difficulties. The course provides practice with grade school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six weeks period. A basic course in the psychology or teaching of reading is prerequisite, or Education S237 may be taken simultaneously. C, II. 3 s.h. (E)

Miss Rudisill
S287. Problems of Mentally and Educationally Retarded Children.-The causes, types, and degrees of mental retardation; psychological theories of mental deficiency; the education of slow learners in regular and special classes; the organization, objectives, curriculum, and teacher of the special class: the social and eugenical bearings of mental deficiency. The educational problems receive major consideration. $B, I I .3$ s.h. (E)

Mrs. Laiman
S288. Problems of Mental Hygiene and Education.-The problems, objectives, scope, factors, and techniques of mental hygiene, particularly with reference to its educational and social implications; the prevention of hamper-
ing personality difficulties and development of wholesome personality; types of adjustment difficulties in different types of children; especially in the normal, and their preventive and remedial treatment; the mental hygiene of the teaching and learning. C, $I I .3$ s.h. (E)

Mrs. Layman
S317X. Thesis Seminar.-Hours to be arranged. 3 s.h. (E)
Staff

## UNDERGRADUATE COURSES

(By permission Seniors may enter graduate courses numbered below 300. Attention is called to the fact that toward the A.B. degree not more than six semester hours of method courses are allowed to count.)

S84. Social Foundations of Education.-Survey of the place and function of education and an understanding of the school as a social institution. $A, I$. 3 s.h. (w)

Mr. Slay
S88. Psychological Foundation of Modern Education.-The psychological facts respecting human development, the learning process, and mental hygiene, together with application to the teaching process and to the guidance of the learner in the many phases of his education. B, $I$. 3 s.h. (e) Mr. Ostwalt

S103. Organization and Management of the School.-An introduction to the problems of school organization and administration which are of particular concern to the classroom teacher. Although federal and state control over education is briefly reviewed, the main consideration is the local school system. Considerable attention is given to the administration of teaching personnel, pupil personnel, and the program of studies. C, I. 3 s.h. (e) Mr. Walton

## COURSES IN NURSING EDUCATION

S192N. Principles and Methods of Teaching in Schools of Nursing.-The primary purpose of this course is to help teachers in schools of nursing to understand and to utilize generally accepted principles of learning in planning and carrying out a more effective teaching program in a school of nursing. Instruction is given in the plaming of courses, in methods of teaching in classrooms and on hospital divisions, in construction of examinations, and in the utilization of other methods of determining the effectiveness of a teaching program. C, $I .3$ s.h. (E)

Miss Smith
S193N. Ward Administration and Teaching.-This course is designed to help head nurses better to understand their functions in planning and managing a program for a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel, and a more adequate ward teaching program for students and others. $B, I$, and $A$ and $C$, July 24-August 12. 3 s.h. (e)

Miss Ingles
S195N. Personnel Work in Schools of Nursing.-The primary purpose of this course is to help head nurses and supervisors to develop an understanding of the principles of human behavior, and ability to utilize these principles in bringing about more satisfactory relationships within a hospital division, and between various departments of the hospital. $A, I .3$ s.h. (E)

S84N. Social Foundations of Nursing Education.-A survey of past and present trends and developments in nursing and nursing education which result from nation-wide and world-wide social and economic change. The primary purpose of the course is to give the student a better understanding of the place of nursing in present-day society and the responsibilities of the individual nurse toward that society. $D, I .3$ s.h. (E)

Miss Ingles
S117N. Community Nursing.-This course includes a study of community health problems and the agencies designed to meet health needs. The purpose of the course is to give prospective teachers in schools of nursing the information and the understanding which are needed to integrate social and health concepts into various clinical areas of the basic nursing curriculum. $B, I$. 3 s.h. (E)

Miss Massey

S130N. Psychosomatic Nursing.-This course is designed to help the student to understand the close relationship between mind and body in all illness. She gains an understanding of emotional reactions and of interpersonal relationships which are useful to her in many areas of professional life. She learns to use techniques of observation and interview. The course includes lectures, clinics, conferences, discussions, and experience with patients. C, I. 3 s.h. (E)

Miss Moser

## ENGINEERING

professor willian holland hall, dean of the college of engineering- 135 engineering building

The Summer Session offerings of the College of Engineering will be limited to those courses needed by students now in school to correct irregularities in their programs of study.
G.E. S107. Strength of Materials.-Elastic bodies under stress; flexure of simple, overhanging, fixed and continuous beams; columns; combined stresses, etc. For Civil Engineering students, the laboratory work is included in course C.E. 118. Other students should take course G.E. 109 for laboratory. Prerequisite: course 57. $A, I I I .3$ s.h. (w)

Mr. Wilder
G.E. S128. Hydraulics.-Hydrostatics; flow of water through orifices, weirs, pipes, and open channels; general principles of water wheels and turbines. Prerequisite: course G.E. 57. B, III. 3 s.h. (w) Mr. Wilder
C.E. S110. Plane Surveying.-Use of instruments; transit, stadia and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings latitudes; departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: G.E. 1 and trigonometry. (Four weeks, eight hours a day, beginning June 13.) 4 s.h. (w) Mr. Brown

## ENGLISH

professor william h. irving, chairman-2G5 west duke building (east CAMPUS) ; PROFESSOR PAULL F. BAUM, DIRECTOR of GRADUATE STUDIES402 library building (west campus)
Candidates for the Master's degree in English are expected to have had at least twelve semester hours in undergraduate courses above the Sophomore level. The Department may also require additional courses on the graduate level if the work of the student in his first term indicates inadequate preparation. For admission to candidacy with a major in American Literature, the student must have taken English S137-S138 or an acceptable equivalent in American Literature either as part of the twelve hours stipulated above or in addition to them.

Master's candidates in English are required to complete at least three semester hours in Chaucer or certain other designated courses. Those who have completed as many as twelve semester hours of graduate work should take also the bibliography course, S301, at their earliest opportunity.

The language requirements for the A.M. degree in English may be satisfied by a knowledge of any of the following languages: French, German, Latin, Greek, or Italian. In exceptional cases when the candidate's thesis requires the use of another language than those listed above, it may, by permission of the Graduate English Staff, be substituted.

S1. English Composition.-A course in the fundamentals of English composition, oral and written, with special attention to sentence structure, syntax common errors, etc. Frequent themes. A, I, and III. 3 s.h. (E)

I Mr. Rees
III Mr. Bowman

S2. English Composition.-A continuation of course S1. C, I and III. 3 s.h. (E)

S55. Representative English Writers.-Chaucer, Malory, Shakespeare, Milton, and Pepys will be studied. B, I. 3 s.h. (e) Mr. Blackburn

S56. Representative English Writers.-Swift, Fielding, Boswell, Keats, Arnold, Thackeray, and Shaw will be studied. B, III. 3 s.h. (w)

Mr. Bowman
S114. The Teaching of Speech.-A course designed to assist the classroom teacher in the understanding of speech problems. Methods of teaching dramatics, oral interpretation, radio, debating, and public speaking. Stress will be laid on the recognition and treatment of functional disorders. Previous speech training is desirable but not essential. $A, I .3$ s.h. (E) Mr.Runkel

S119. History of the Theatre.-The origin and development of drama. acting, and stagecraft from ancient Greece to the modern European and American theatre. Production problems of representative plays of the various periods will be discussed. A and C, III, July 24 to August 12. 3 s.h. (w)

Mr. Reardon
S121. Play Production.-An introduction to the methods of producing a play, designed to meet especially the needs of teachers whose duties include the directing of plays. The course covers theatre organization, play selection, casting, rehearsing, scene design and execution, lighting, make-up and costume. Lectures, class discussion, and laboratory. D, I. 3 s.h. (w) Mr. Reardon

S125. English Literature, 1789-1832.-The course begins with selections from the poetry of the forerunners of Romanticism. The chief emphasis is on the work of the older Romantics: Blake, Burns, Scott, Wordsworth, Coleridge, Lamb, and Hazlitt. Tests and short reports. B, III. 3 s.h. (w)

Mr. Patton
S151. Essentials of Public Speaking.-A basic course in public speaking designed to give the student the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of materials and to oral presentation. C, I. 3 s.h. (E)

Mr. Runkel
S156. Modern British and American Drama.-Types of drama are studied in relation to European influences and to the contemporary scene. $B, I .3$ s.h. (w)

Mr. Reardon
S157. Contemporary Fiction.-Wide reading in contemporary novelists. from Thomas Hardy to James Joyce, with attention given to influences of European literary and social thought. Frequent written and oral reports. D, I. 3 s.h. (E)

Mr. Blackburn
S220. Literature of the Eighteenth Century.-Thomson, Gray, Collins; Richardson, Fielding, Sterne; Boswell and Johnson; Cowper, Burns, Blake. Lectures, discussions, short papers, and a term essay. $B, I .3$ s.h. (E)

Mr. MacLean
S221. Romantic Literature.-Wordsworth, Coleridge, Lamb; Byron, Shelley, Keats. Lectures, discussions, short papers, and a term essay. $D, I .3$ s.h. (E)

Mr. Maclean
S229. American Literature, 1800-1870.-The writers emphasized are Emerson, Thoreau, and Hawthorne. Attention is also given to various other authors of New England, such as Bryant, Long fellow, Holmes, Whittier, Lowell, and Parkman. A, $I .3$ s.h. (e)

Mr. Hornberger
S230. American Literature, 1800-1870. -The writers emphasized are those of the South and the Middle States, especially Irving, Cooper, Poe, and Melville. $A, I I I .3$ s.h. (w)

Mr. Graham

S233. American Literature since 1870.-Chief authors of the later nineteenth century: Whitman, Lanier, James, Howells, Mark Twain, and Emily Dickinson. C, III. 3 s.h. (w)

Mr. Graham
S234. American Literature since 1870.-The realistic tradition in fiction: Crane, Norris, Dreiser, and their successors; the Poetical Renaissance; Frost, Kobinson, T. S. Eliot; and the plays of Eugene O'Neill. C, I. 3 s.h. (e)

Mr. Hornberger
S237. English Drama, 1642-1800.-The Heroic Play and the Comedy of Manners of the Restoration period; and the important plays, serious and comic, of the eighteenth century. Lectures, class discussions, and short reports. $B$, III. 3 s.h. (w)

Mr. Ward
S238. Shakespeare.-Intensive reading of four plays: I Henry. IV, Twelfth Night, Macbeth, The Tempest. Lectures, short reports on assigned topics, and a term essay. $A, I .3$ s.h. (e)

Mr. Shaaber
S243. History of the English Language.-Historical grammar, the development of vocabulary, semantics, the continuing evolution of the language in the nineteenth and twentieth centuries. C, $I .3$ s.h. (e) Mr. Shaaber

S251. English Literature in the Seventeenth Century.-A survey of the major works in prose, poetry, and drama from 1600 to the death of Dryden. D, III. 3 s.h. (w)

Mr. Ward
S308X. Seminar in American Literature.-For students writing theses in American Literature. $I$ and $I I I$. Hours and credits to be arranged. (E)

Mr. Gohdes
S349X. Seminar in English Literature.-For students writing theses in English Literature. I and III. Hours and credits to be arranged. (E)

Mr. Baum

## FORESTRY

PROFESSOR CLARENCE F. KORSTIAN, DEAN OF THE SCHOOL OF FORESTRY AND DIRECTOR OF GRADUATE STUDIES-307 SOCIAL SCIENCE BUILDING
(WEST CAMPUS)
Organized course work in the School of Forestry during the Summer Session is limited to plane surveying, forest surveying, and forest mensuration which are required of all students entering upon two years of study in technical forestry leading to the degree of Master of Forestry (M.F.).

Qualified students may engage in thesis research in certain branches of forestry during the Summer Session with the approval of the instructor concerned and the Dean of the School of Forestry or of the Director of Graduate Studies in the case of work taken through the Graduate School.
C.E. S110. Plane Surveying.-Use of instruments; transit, stadia, and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: G.E. 1 and trigonometry. (Four weceks, cight hours a day, beginning June 13.) 4 s.h. (w) Mr. Brown

S150. Forest Surveying.-Application of plane surveying to forest problems; practice in making boundary and topographic surveys of forested tracts, using both intensive and extensive methods. Work includes use of transit, level, traverse board, topographic abney and slope tape, and aneriod barometer. Prerequisites: Civil Engineering, S110 Plane Surveying, or equivalent. (Five zueeks, eight hours a day, July 11 to August 12.) 5 s.h. (w) Mr. Rudolph

S151. Forest Mensuration.-Field studies in methods of measuring content and growth of trees and forest stands; practice in timber estimating, log scaling, use of mensurational instruments, and collection of basic data. (Four wecks, eight hours a day. August 14 to September 8.) 4 s.h. (w)

Mr. Schumacher
S357. Research in Forestry.-Open to students whose research programs for the M.F. or D.F. degree have been approved by the Dean of the School of Forestry and the instructor responsible for directing the research and whose programs for the A.M. or $\mathrm{Ph} . \mathrm{D}$. degree have been approved by the Director of Graduate Studies and the instructor in charge. (Credits and schedule to be arranged.) June 14-August 31. 2 to 12 s.h. (Not more than one semester hour of credit per week for full-time schedule or one semester hour each two weeks for half-time schedule.) (Consult courses 301-302 in Announcement of School of Forestry for letter designation of branches of forestry in which research is to be conducted.) (w)

Staff

## FRENCH

PROFESSOR B. R. JORDAN, CHAIRMAN OF THE DEPARTMENT OF ROMANCE LANGUAGES -214 CARR BUILDING (EAST CAMPUS)
S1. Elementary French. $-B$ and $D$, June 14-July 1. 3 s.h. (E)
Mr. Najam
S2. Elementary French. $-B$ and $D, J u l y 5-22.3$ s.h. (e) Mr. Najam
Note: A student enrolled in French S2 must also attend French S1.
S3. French Prose.-Reading and translation, exercises in grammar review and verb drill. Prerequisite: French S1-S2 or two years of high-school French. A, I. 3 s.h. (E) Mr. Lewis
S4. French Prose.-Reading and translation writing in French from dictation, and aural drill. Prerequisite: French S3. C, I. 3 s.h. (E)

Mr. Lewis
S51. Introduction to French Literature.-Prerequisite: French $3-4$ or equivalent. $A, I .3$ s.h. (w) Mr. Archie
S52. Introduction to French Literature.-Prerequisite: French 51 or equivalent. $B, I .3$ s.h. (w) Mr. Archie

## GEOLOGY

S51. General Geology.-This course is designed to give a general view of the surface features of the earth, their origin, structure, and materials. Illustrative materials are studied in the laboratory. Excursions may be made to neighboring points where principles of the science are studied in the field. Lectures or recitation, $A$ and $B$ daily; Laboratory 2:00-5:00 P.M., Monday, Tuesday, Wednesday, Thursday, June 26-July 22. 4 s.h. (e) Mr. Berry

S52. General Geology.-This course is designed to give some knowledge of the chief events of the earth's history. Excursions may be made to suitable neighboring localities. Lectures or recitations, $A$ and $B$ daily; Laboratory 2:00-5:00 P.M., Monday, Tuesday, Wednesday, Thursday, July 24-August 12. 4 s.h. (E)

Mr. Berry

## GERMAN

PROFESSOR CLEMENT YOLLMER, CHAIRMAN-106A SOCIAL SCIENCE BUILDING (wEST CAMPUS)
Si. Elementary German.-The fundamentals of grammar and pronunciation; vocabulary drill, translation, and dictation. Emphasis upon a sound reading knowledge of the language and individual achievement. $B$ and $D$, June 14-July 1. 3 s.h. (w) Mr. Maxwell

S2. Elementary German.-The equivalent of the second college semester of German; intensive reading of graded material; grammar and vocabulary drill ; dictation and sight translation. $B$ and $D$, July $5-22.3$ s.h. (w)

Mr. Maxwell
Note: A student enrolled in German S2 must also attend German S1.
S3. Intermediate German.-Grammar and composition; dictation, spoken German; reading of narrative and dramatic prose. $A, I .3$ s.h. (w)

Mr. Wilson
S4. Intermediate German.-Grammar and composition; dictation, spoken German; reading of narrative and dramatic prose. Prerequisite: German 3. C, I. 3 s.h. (w)

Mr. Wilson

## GREEK

S121. Greek Literature: Homer.-Iliad and Odyssey. The purpose of this course is to give a general survey of the life and civilization of the Greeks, especially to those who have never studied the language but wish to become acquainted with some of the choicest portions of the literature by the use of translations. The Iliad and the Odyssey are read in translation, and the excavations and discoveries at Troy and other cities of the Aegean age are discussed. $A, I .3$ s.h. (w)

Mr. Truesdale
S122. Greek Literature: The Tragic Poets.-The purpose of this course is similar to that of course S121. Many of the extant plays of Aeschylus, Sophocles, and Euripides are studied in English translations. B, I. 3 s.h. (w)

Mr. Truesdale

## HISTORY

PROFESSOR WILLIAM T. LAPRADE, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES -2 B WEST DUKE BUILDING (EAST CAMPUS)
For admission to candidacy for a Master's degree in History the student must present a total of eighteen semester hours of prior work in History, of which at least six must be in American History if he plans to take his major work in that field. Before enrolling for thesis supervision, candidates for the Master's degree are required to complete at least three semester hours of seminar work and are strongly urged to enroll for this work in the second term of their attendance in the Summer Session. (See courses numbered 300 or above.)

S51. Historical Background of the World Today 1500-1871.-The central fact of the expansion of Europe underlies the content of the course. The chief themes are: the contest between liberty and authority in the modern state, changing economic theory and organization, and the problems of peace and war among the states, including the Western infiltration of Asia, Latin America, and Africa, and the rise of the United States as a world power. $A, I .3$ s.h. (E)

Mr. Hamilton
S52. Historical Background of the World Today 1871-1949.-A continuation of History S51. A, III. 3 s.h. (w) Mr. Ropp

S91. The Development of American Democracy to 1865.-This course is a study of trends vital to an understanding of the United States today. The main theme is the development of American democracy. Problems of foreign policy, the growth of capitalism, political practices, social behavior, and conflicting ideals are considered in relation to this main theme. $B, I$. 3 s.h. (E)

Mr. Watson
S113. America in the Twentieth Century.-An historical study of political, economic, and social problems of twentieth-century United States. Emphasis is placed on reform movements from the Muckrakers through the New Deal, the emergence of the United States as a world power, and conflicting ideas and ideologies. $D, I .3$ s.h. (E)

Mr. Watson

S232. The Hispanic American Republics.-B, I. 3 s.h. (w) Mr. Lanning
S235. War in the Modern World.-This course, which deals with military and naval history since Napoleon, is concerned with the relations between war and modern political, economic, and social conditions rather than with the details of battles. Special attention is given to the development of British and American military methods and to events in the American Civil War and the two World Wars. C, III. 3 s.h. (w)

Mr. Ropp
S236. The South from 1877 to the Present.-A study of the social, cultural, economic, and political development of the South since reconstruction. C, I. 3 s.h. (w) Mr. Sydnor
S262. Russia in the Twentieth Century.-A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. $A, I .3$ s.h. (e)

Mr. Curtiss
S263. American Colonial History and the Revolution, 1606-1783.-The growth of institutions and economic life in the English colonies; the American Revolution. C, III. 3 s.h. (w) $\mathrm{M}_{\mathrm{R}}$. Woody

S270. The History of England from the Accession of the Tudors to Vic-toria.-Emphasis will be on important personalities, the composition of society, selected topics pertaining to political and social forces, with some attention to the background of the chief literary periods. C, I. 3 s.h. (E)

Mr. Hamilton
S315. Seminar in Southern History.-Selected topics in the development of the Southern region, chosen year to year in different periods in its development. $B, I$ and $I I I .3$ s.h. (w)
$I$ Mr. Sydnor
III Mr. Woody
S321. Seminar in the History of the Spanish-American Colonies.D, I. 3 s.h. (w) Mr. Lanning

S363. Seminar in Recent Russian History.-C, I. 3 s.h. (e) Mr. Curtiss

## Latin and roman studies

S111. Roman Literature in English Translation.-Selected readings of Latin literature in English translation with emphasis on the drama, lyric poetry, and the varied contributions of Cicero to literature. C, $I .3$ s.h. (w)

Mr. Rose
S112. Roman Literature in English Translation.-A continuation of S111 with emphasis upon the epic, the satire and the novel. $D, I .3$ s.h. (w)

Mr. Rose

## MATHEMATICS

PROFESSOR J. J. GERGEN, CHAIRMAN-220 PHYSICS BUILDING (WEST CAMPUS); PROFESSOR J. H. ROBERTS, DIRECTOR OF GRADUATE STUDIES219 PHYSICS BUILDING (WEST CAMPUS)
For admission to candidacy for the degree of Master of Arts with major in Mathematics, a student must have a minimum of twenty-four semester hours credit for course work in Mathematics and related fields. This course work must be approved by the Department through the Director of Graduate Studies. It must include differential and integral calculus and an additional six semester hours of work in mathematical courses of at least Junior level.

To obtain the Master of Arts degree with major in Mathematics by Summer Session work, a candidate must complete twenty-one semester hours of course work in Mathematics, six semester hours of course work in a minor field, and a thesis in Mathematics. The course work must be in courses numbered not less than 200. All work must be approved by the Department through
the Director of Graduate Studies. To help students meet the thesis requirement, the Department offers Thesis Seminar, S389X, in which supervision of thesis writing is available.

Each student should, as early as possible in his graduate work, discuss his program with the Director of Graduate Studies or his representative.
$\begin{array}{lrl}\text { Solid Geometry.-September } 1 \text { through September 12. } 0 \text { s.h. (w) } \\ & \text { Mr. Elliott } \\ \text { S5. College Algebra.-B, I. } 3 \text { s.h. (w) } & \text { Mr. Rankin } \\ \text { S6. Plane Trigonometry.-A, } I . & 3 \text { s.h. (w) } & \text { Mr. Hickson }\end{array}$
S50. Plane Analytic Geometry.-Prerequisite: Mathematics S5 and S6. A, III. 3 s.h. (w) Mr. Patterson
S51. Calculus I.-Differentiation of elementary functions, curve tracing, maxima and minima, motion. Must be preceded or accompanied by Mathematics S50. B, III. 3 s.h. (w) Mr. Patterson

S53. Calculus III.-Introduction to solid analytic geometry, partial differentiation, multiple integration, series, introduction to differential equations. Prerequisite: Mathematics 52. C, I. 3 s.h. (w)

Mr. Dressel
S224. Mathematical Statistics.-Representation of data, averages, measures of dispersion, comparison of distributions, correlation, probability functions, normal curve and generalizations, sampling, multiple and partial correlation. Prerequisite: Calculus. $B, I I .3$ s.h. (w)

Mr. Gergen
S258. Finite Differences.-Interpolation formulas, symbolic methods, polynomials of Bernoulli and Euler, numerical differentiation and integration, difference equations. Prerequisite: Calculus. $A, I I .3$ s.h. (w) Mr. Carlitz

S259. Solid Analytic Geometry.-Lines, planes, spheres, quadric surfaces, transformations. Prerequisite: Calculus. A, B, June 14-July 1. 3 s.h. (w)

Mr. Dressel
S291. Theory of Functions.-Complex numbers, analytic functions, elementary functions, geometry of elementary functions, integrals. Prerequisite: Calculus. C, $I$. 3 s.h. (w)

Mr. Gergen
S292. Theory of Functions.-Power series, residues and poles, conformal mapping, application of conformal mapping, Riemann surfaces. Prerequisite: S291. A, B, August 14-31. 3 s.h. (w) Mr. Roberts

S389X. Thesis Seminar.-Supervision of individual theses in algebra, analysis, and geometry. Students should consult the Director of Graduate Studies or his representative before registering. Thesis credit only. Hours to be arranged. II. (w)

Mr. Carlitz

## MEDICAL MYCOLOGY

A month's course in Medical Mycology, under the direction of Dr. Norman F. Conant, is to be offered at Duke University School of Medicine and Duke Hospital, July 2-July 29, 1950. The course will be offered every day in the week, except Sunday, and has been designed to insure a working knowledge of the human pathogenic fungi within the time allotted.

Emphasis will be placed on the practical aspects of the laboratory as an aid in helping establish a diagnosis of fungus infection. Insofar as possible and as patients become available, methods of collecting materials in the clinic for study and culture will be stressed. Work with patients, clinical material, cultures and laboratory animals will serye as a basis for this course. Also, an opportunity to study pathologic material, gross and microscopic, will be given those whose previous training would allow them to obtain the greatest benefit from a study of such material.

The number of applicants for the course will be limited and the applications will be considered in the order in which they are received. An attempt will be made, however, to select students on the basis of their previous training and their stated need for this type of work.

A fee of $\$ 50.00$ will be charged for this course, upon the completion of which a suitable certificate will be awarded. Please direct inquiries to Dr. Norman F. Conant, Professor of Mycology, Duke University School of Medicine, Durham, N. C.

## PHILOSOPHY

professor glenn negley, chairman-3-i west duke building (east campus); professor r. L. Patterson, director of graduate studies-3-i west duke bulding (east campus)
S48. Logic.-An introduction to critical thinking: the analysis of arguments with emphasis on inductive reasoning, valid forms, and fallacies in argument. Practice in analysis. B, $I .3$ s.h. (E)

Mr. Welsh
S94. History of Modern Philosophy.-A study of the leading contributions to philosophical thought from Descartes to the present. B,III. 3 s.h. (w)

Mr. McLarty
S99. Fundamentals of Christian Morality: An Introduction to Christian Ethics.-Modes and ideals of life as exemplified in Christian history and expressed in Christian literature. C, III. 3 s.h. (w) Mr. McLarty

S109. Semantics.-An introduction to the philosophy of language and symbolism, with special consideration of the nature of language, sign-using behavior, ambiguity, metaphor, and special types of discourse: scientific, poetic, propagandistic. Lectures and discussion, with practice in interpretation. $C$, I. 3 s.h. (E)

Mr. Welsh
S208. Political Philosophy.-Analysis of political structures with special attention to the nature and function of institutions and the development of administrative law. $A, I I, 3$ s.h. (E)

Mr. Negley
S216. American Philosophy.-Readings from Charles Saunders Peirce, William James, and John Dewey and discussion of their influence on American thought and action. $B, I I, 3$ s.h. (E)

Mr. Negley

## PHYSICS

PROFESSOR WALTER M. NIELSEN, CHAIRMAN゙-119 PHYSICS BUILDING (WEST CAMPUS) ; PROFESSOR L. W. NORDHEIM, DIRECTOR OF GRADUATE STUDIES209 physics building (west campus)
S51. General Physics.-This course treats the basic principle of general physics in a more quantitative mamer than Physics 1-2. It is designed for Sophomores and Juniors and meets in a thorough way the physics requirements for entrance into the study of either medicine or engineering, and is well suited for the general student. A limited number of Freshmen who present physics for entrance and who have completed the required mathematics may be admitted by permission of the instructor. (Not open for students who have completed Physics 1-2.) Prerequisite: Mathematics 2-5 or equivalent. Lecture and recitation daily, 8:30-9:50 and 10:10-11:30; laboratory threc days per weck, 2:00-5:00. Jume 19-July 22. 5 s.h. (iv) Mr. Carpenter

S52. General Physics.-A continuation of Physics S51. Prerequisite: Physics S51. Lecturc and recitation daily, 8:30-9:50 and 10:10-11:30; laboratory threc days per weck, 2:00-5:00. July 2t-August 25. 5 s.h. (w)

Mr. Carpenter
S101. Intermediate Physics.-Mechanics and heat. This course covers in a thorough manner the elements of mechanics and heat. Prerequisites: Physics

1-2 or 51-52 or equivalent, and a course in differential and integral calculus which may be taken concurrently. Lecture and recitation daily; laboratory three day's per week. June 26-July 22. 4 s.h. (w) Mr. Nielsen

S102. Intermediate Physics.-A continuation of Physics S101. Prerequisite: S101. Lecture and recitation daily; laboratory three days per week. July 24-August 18. 4 s.h. (w) Mr. Nielsen

S353X. Thesis Seminar.-Students who are properly qualified may carry on research work under direction. Credits and hours to be arranged. (w)

Staff

## POLITICAL SCIENCE

PROFESSOR ROBERT S. RANKIN, CHAIRMAN-308 LIBRARY (WEST CAMPUS) ;
PROFESSOR R. R. WILSON, DIRECTOR OF GRADUATE STUDIES- 311
LIBRARY (WEST CAMPUS)
S61. American Government and Politics.-A study of the American political system, emphasizing the organization and functioning of the national government. $B, I .3$ s.h. (w)

Mr. Travis
S62. American Government and Politics.-A study of the American political system, emphasizing the organization and functioning of state and local government. Continuation of S61. C, III. 3 s.h. (w) Mr. Richards

S141. Public Regulation.-An introduction to the administrative process, emphasizing the nature, types, and techniques, of public activity; and the methods and problems of protecting the public interest. B, III. 3 s.h. (w)

Mr. Richards
S152. Latin-American Political Institutions.-A study of Latin-American governments during the national period, particular attention being given to the political institutions of Argentina, Chile, Colombia, Uruguay, Brazil and Mexico. $A, I .3$ s.h. (w)

Mr. Travis
S224. Modern Political Theory.-Political theories of the seventeenth and eighteenth centuries, and of the first half of the nineteenth. with a study of their influence upon modern political institutions. $A, I I .3$ s.h. (w)

Mr. Bennett
S231. American Political Theory.-An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. C, II. 3 s.h. (w)

Mr. Bennett
S241. National Administration.-The development of the Federal administrative structure, its present organization, working concepts and processes in the United States. B, I. 3 s.h. (w)

Mr. Greene
S247. Regulatory Administration.-A survey of the problems involved in the exercise of administrative discretion, including methods of administrative adjudication, judicial control over administrative action, and extra-legal relations. C, $I .3$ s.h. (w)

Mr. Greene

## PSYCHOLOGY

professor donald k. adams, Chairman- 201 bivins building (east campus); PROFESSOR KARL ZENER, DIRECTOR OF GRADUATE STUDIES- 205 science building (east campus)
For admission to candidacy for a Master's degree in psychology the student must present a total of twelve semester hours in psychology beyond the introductory course, at least six semester hours of which must be taken in Senior-Graduate courses. In addition he must have credit for Zoology 1-2 or equivalent.

S91-92. General Psychology.-An introduction to the facts, principles, and problems of normal adult psychology through a study of psychological methods as applied to motivation, emotions, perceptions, sensation, thinking, memory, learning, individual differences, and personality. The course is a prerequisite for all other courses in psychology. $B$ and $D, I$ and $I I I .6$ s.h. $I(\mathrm{E}), I I I(\mathrm{w}) \quad I$ Mr. Edgertoñ

III Mr. Hornaday
S204. Motivation and Learning.-Psychological and biological conditions of the operation, modification, organization of motivational systems. $A, I I$. 3 s.h. (E)

Mr. Zener
S206. Social Psychology.-An application of basic psychological concepts and principles toward the understanding of interpersonal relations, of relationships between the individual and the group, and of group behavior. $B, I I$. 3 s.h. (E)

Mr. Wright
S207. Psychology of Memory, Thinking, and Perceiving.-A study of thinking, remembering, and perceiving with reference to the basic processes involved and their determining conditions, with emphasis upon organization, meaning and motivation. $A, I I$. 3 s.h. (e) Mr. Zener

S215. Developmental Psychology.-A study of the behavior that occurs under the psychological conditions of the developmental period in the life of the individual. B,II. 3 s.h. (e) Mr. Wright

Thesis Seminar.-Hours to be arranged. I, $I, I I I$. (e) Mr. Adams

## RELIGION

PROFESSOR HAROLD A. BOSLEY, DEAN OF THE DIVINITY SCHOOL- 110 divinity SCHOOL (WeSt campus) ; professor h. e. Myers, chatrman of the department of religion-204 divinity school (west campus); professor h. Shelton smith, director of graduate studies - 302 divinity school (west campus)

S51. The History of the Hebrew People.-A study of the Hebrew people that gives attention to their political history, their religious and social institutions, their literary development, with special reference to their contributions to civilization. $C, I$ and $I I I$. 3 s.h. (w)

I Mr. Bradley III Mr. Myers
S52. New Testament Life and Literature.-A study of the literature of the New Testament, its historical background, and its religious value. $D, I$ and $I I I$. 3 s.h. (w)

I Mr. Bradley
III Mr. Phillips
N.T. S.06. The Interpretation of the Fourth Gospel.-A study of the content, historical value and religious significance of the Gospel of John and its relevance for contemporary Christian life and thought. The course will be based on the English text. For Divinity School students and college seniors. C, II. 3 s.h. (w)

Mr. Young
S114. The Life and Teachings of Jesus.-This course considers the period in which Jesus lived, the record of his life, and the meaning of his teachings as recorded in the Synoptic Gospels. Not open for credit to students who take Religion 101. B, $I I I .3$ s.h. (w)

Mr. Myers
C.H. S138. Great Books in Christian History.-An intensive study of Augustine's Confessions, Thomas A'Kempis' Imitation of Christ, Erasmus' Complaint of Peace, Luther's Christian Liberty, Calvin's Instruction in Faith, and Andrewes' Private Devotions. For Divinity School students and college seniors. $A, I I$. 3 s.h. (w)

Mr. Petry

S167. Contemporary Religious Problems.-A course that deals with the main interests of iife from the standpoint of their social and religious significance. C, $I I I .3$ s.h. (w)

Mr. Phillips
S181. The Nature and Early Development of Religion.-Introduction to the early history of religion, the beliefs and practices of the more primitive peoples, and the religious life of the ancient world. For Juniors and Seniors. Not open for credit to students who take Religion 183. $B, I ., 3$ s.h. (w)

Mr. Cannon
S182. Living Religions of the World.-A survey of the religious systems of India, China, and Japan, followed by a study of Judaism, Mohammedanism, and Christianity, the object being to trace the historical development of each religion. For Juniors and Seniors. Not open for credit to students who take Religion 183. C, I. 3 s.h. (w)

Mr. Cannon
Pr. S184. Preaching Values in the Pauline Epistles.-A study of the religious experience and theology of St. Paul and its influence on his ethical theory and practice. 3 s.h. June 14-July 1. (w) Mr. Cleland
O.T. S301. The Religious Thought of Post-Exilic Judaism.-A study of the development of religious ideas in Post-Exilic Judaism. For Divinity School and graduate students. $A, I I .3$ s.h. (w)

Mr. Young
C.T. S321. Platonism and Christianity.-A study in Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. For Divinity School and graduate students. Prerequisite: six hours in Introduction to Philosophy. C, II. 3 s.h. (w) Mr. Cushman
C.T. S328. Twentieth-Century Continental and British Theology.-Critical examination of the thought of Barth, Brumner, Berdyaev, Maritain, F. R. Tennant, and William Temple. For Divinity School and graduate students. D,II. 3 s.h. (w)

Mr. Cushman
C.H. S330. The Church in Europe since 1800.-Emphasis is placed on the relation of the church to the social, economic, and political life of Modern Europe. Particular attention is given to Papal pronouncements on social issues, the relationship of Eastern to Western institutions, and ecclesiastical historiography as it involves source editions, periodicals, and ecumenical literature. For Divinity School and graduate students. B, II. 3 s.h. (w)

Mr. Petry

## SOCIOLOGY

professor howard e. jensen, chairman-215d social science building (west campus) $\ddagger$ professor hornell hart, director of graduate studies-215d social science building (west campes)
S101. General Sociology.-An introduction to the scientific study of social life, its origin, evolution, and organization as illustrated by the study of a number of concrete social problems. $A, I .3$ s.h. (e) Mrs. Whitringe

Note: Attention is called to the fact that Sociology 91-92, or 101, or 111 or 112 is prerequisite to all the following courses in the Department.

S191. Principles of Social Case Investigation.-A non-professional course designed to acquaint the student with the basic research techniques employed in the case study of the interrelationships of personality and culture in various fields of sociological and anthropological interest. C, I. 3 s.h. (E)

Mrs. Whitridge
S233. Rural Sociology.-A study of the societies developed by people who settle the land and exploit it for a livelihood; patterns of settlement ; culture; peasant, farmer, and folk societies; and rural institutions. Special attention is given to the plantation and the rural problems of the South. $A, I I I .3$ s.h. (w)

Mr. Thompson

S238. Race and Culture.-A study of the nature of race and of the relationships and problems of race. C, $I I I$. 3 s.h. (w) Mr. Thompson

S243. Social Attitudes and Collective Behavior.-Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns; expression of social attitudes in social, political and industrial groups; social unrest and the behavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. $B, I .3$ s.h. (E)

Mr. Schettler
S246. Public Opinion and Propaganda.-Nature and development of public opinion: relation to attitude, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. $D, I .3$ s.h. (E)

Mr. Schettler
S249. Child Welfare.-A study of heredity and enviromment as factors in personality development; infant conservation; welfare responsibilities of the school, emphasizing the physical and mental well-being of the child, play, and compulsory and industrial education; child labor, diagnosis and treatment of delinquency ; care of the dependent and neglected child; child-caring agencies, public and private; and a community program of child welfare. A, II. 3 s.h. (E)

Mr. Jexsen
S250. Marriage and the Family.-An analysis of contemporary marriage and family experiences with emphasis on its functions, problems, resources, and values. Not open to students who have received credit for Sociology 299 or Religion 170. $A$ and $C, J_{u l} y_{y} 6$-2?. 3 s.h. (E)

Mr. Hart
S276. Criminology.-A study of the original tendencies of man and the problem of socializing these tendencies; the relation of physical and mental defectiveness and untoward influence in the home and neighborhood to crime: the development of criminological theory and procedure, emphasizing penal and reform methods. and especially modern methods of social treatment and prerention of crime. B, II. 3 s.h. (E)

Mr. Jensen
S286. Social Ethics.-A study of sociological fundamentals underlying ethics. including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social ralues, underlying principles and facts of social change, and the bearings of all these upon certain social problems. $A$ and $C$, Junc 14-July 1. 3 s.h. (E)

S382. History of Sociological Theory.-Lectures on the development of social thought from Aristotle to the present; the social philosophies of Plato. Aristotle. St. Augustine. Thomas Aquinas, Machiavelli, Bodin, Hobbes, Locke, Vico, Montesquieu, Rousseau. Condorcet, and the sociological systems of Conte, Spencer, Schaeffle. Lillienfeldt, Gumplowicz, Ratzenhofer, and Ward will. among others, be considered. A large amount of assigned reading will be required in this course. The student is advised to correlate this course with related courses in economics, history, political science, and philosophy. $A$ and C. Iune 14-July 1. 3 s.h. (E)

Mr. Jevsen

## SPANISH

[^8]Students enrolling in Spanish courses should read carefully the statement on the School of Spanish Studies, pages 21-22.

S1. Beginning Spanish.-Pronunciation; essentials of grammar; dictation exercises; early reading of simple prose; vocabulary lists; consistent use of the language as a means of instruction and as a means of attaining a basic aural command. A, C, June 14-July 1. 3 s.h. (E)

Mr. Llerena
S2. Beginning Spanish.-Continuation of course S1. A, C, July 5-22. 3 s.h. (E)

Mr. Llerena
Note: A student enrolled in Spanish S2 must also attend Spanish S1.
S3. Intermediate Spanish.-Systematic review of verbs; drill on high frequency idioms; review of special grammatical difficulties; dictation exercises and oral drill; constant use of the language as medium of instruction; reading of graduated selection of modern prose. A, $I .3$ s.h. (e) Mr. Davis

S4. Intermediate Spanish.-Reading of modern short stories and novels, with emphasis on achievement of ability to read without translation; continued oral-aural exercises; dictation; idiom study; grammar review as necessary. C, I. 3 s.h. (E)

Mr. Hernández
S65. Introduction to Modern Spanish Literature.-Study of representative masterpieces of the modern novel; brief lectures in Spanish; collateral reading of critical commentaries. $C, I .3$ s.h. (e) Mr. Torre

S68. Introduction to Spanish-American Literature.-Study of typical works in the field of the novel and lyric, chiefly of the modern period; lectures on literary, social, and cultural backgrounds and tendencies; collateral readings and reports. $A, I .3$ s.h. (E)

Mr. Hernández
S174. Phonetics and Diction.-The aim of this course is twofold : to improve the student's pronunciation and to increase his power of oral expression. The elements of Spanish phonetics will be presented in conjunction with practical exercises. Practice in oral expression will be afforded by class discussion of selected contemporary texts. C, I. 3 s.h. (E)

Mr. Predmore
S256. Great Modern Poets of Hispanic America.-A study of the life and poetic works of Martí, Díaz Mirón, Gutiérrez Nájera, Casal, Silva, Darío, Nervo, Chocano, González Martínez, Valencia, Lugones, Herrera Reissig, Gabriela Mistral. Lectures; readings and analysis of representative poems. $B, I .3$ s.h. (E)

Mr. Balseiro
S261. Modern Spanish Novel.-A study of the lives and works of the nineteenth-century novelists: Fernán Caballero, Valera, Pereda, Alarcón, Pérez Galdós, Pardo Bazan, Clarín, and Palacio Valdés. C, I. 3 s.h. (e)

Mr. Bal.seiro
S265. Golden Age Literature: Cervantes.-This course will be devoted exclusively to the reading and discussion of Don Quijote, and to consideration of some of the major themes of the age. $A, I .3$ s.h. (e) Mr. Predmore

## ZOOLOGY

professor irving e. gray, chairman-218 biology building (west campus); associate professor karl m. wilbur, director of graduate studies 328 biology building (west campus)

For admission to candidacy for a Master's degree in Zoology, a student should have completed an undergraduate major in Zoology (courses in General Science and Botany are not counted as a part of a Zoology major). This normally amounts to about twenty-four semester hours, which should be distributed among the various fields of Zoology, and must include Vertebrate Zoology or Comparative Anatomy, Physiology, and Embryology, passed with creditable grades. A candidate should also have completed at least one year of Chemistry. Work for the degree will require eighteen hours in advanced courses in Zoology, and six hours in another department for a minor, in addition
to a thesis. Before registration for a degree, students should confer with the Director of Graduate Studies for the Department. Students not candidates for a degree may take courses offered, if they have necessary prerequisites; but may not count them toward a degree until an undergraduate major has been completed.

S1. General Zoology.-A brief survey of the animal kingdom. Lectures, recitations and laboratory daily, 8:00-12:00, 2:00-4:00. June 26-July 22. 4 s.h. (w)

Mrs. Hunter
S2. Animal Biology.-The principles of biology as applied to animals. Prerequisite: Zoology 1. Lectures, recitations and laboratory daily, 8:00-12:00, 2:00-4:00. July 24-August 19. 4 s.h. (w) Mr. Roberts

S53. Comparative Vertebrate Anatomy.-The anatomy and evolution of the organ systems of vertebrates. Prerequisite: Zoology 2. Lectures, recitations and laboratory daily, 8:00-12:00, 2:00-4:00. June 26-July 22. 4 s.h. (w) Mr. Horn
S92. General Embryology.-The fundamental principles of embryology as illustrated in frog, chick, and mammal. Prerequisite: Zoology 53. Lectures, recitations and laboratory daily, 8:00-12:00, 2:00-4:00. July 24-August 19. 4 s.h. (w)

Mr. Johnson
S225-S226. Field Zoology.-A field and laboratory course dealing with the taxonomy, life histories, and habits of animals-with special emphasis on field methods. Opportunity will be afforded to follow special interests. S225 first three weeks, S226 second three weeks. Classes daily, morning and afternoon. July 6-25, July $26-$ August 12. 3 or 6 s.h. (w)

Mr. Bailey
S353. Research.-Hours to be arranged. June 14-August 31. (w) Staff
Courses at the Marine Laboratory, Beaufort, N. C. (Write for special bulletin of the Duke University Marine Laboratory.)

S203. Marine Ecology.-A study of marine animals in relation to environment. Consideration of environmental factors, succession, rhythms, communities, intraspecific and interspecific relations, productivity, conservation, problems, etc., concerned with animal life in the ocean. Lectures, reviezes, conferences, field and laboratory work. June 14-July 22. 6 s.h. Mr. Gray

S211. Quantitative Biology.-The analysis and interpretation of measurement data obtained from biological populations including sampling techniques, estimation, the applications of analysis of variance and regression, and computational procedures. Statistical concepts in biology-binomial and Poisson type populations. June 26-July 22. 4 s.h.

Mr. Monroe
S274. Marine Invertebrate Zoology.-A study of invertebrate animals that occur in the Beaufort region. A number of field trips will be made to a variety of habitats to study, collect, and classify animals in their natural environments. The structure, embryology, and habits of living invertebrates as well as their behavior under certain experimental conditions will be studied in the laboratory. July 24-August 31. 6 s.h. Mr. Воокноит

S353. Research.-Hours to be arranged. June 14-August 31.
Mr. Gray and Mr. Bookhout

## DIRECTIONS TO SUMMER SESSION APPLICANTS

In order to be sure of enrollment in a specific course the accompanying application blank below should be filled out and returned as early as possible. Enrollment in courses is limited. Priority will be given to applicants in the order of the receipt of their application. All pertinent information called for should be given in full. Undergraduates desiring college credit to be transferred back to their present college should write for a special blank on which to obtain the approval of their dean or registrar. On our receipt of the application blank below you will be sent a form for applying for room reservation. If you wish to apply for admission as a candidate for an advanced degree, you will, in addition to filling out this blank below, write directly to the Dean of the Graduate School for the necessary forms: see p. 14 of the Summer Session Bulletin.

No
Rec’d Approved

## Application for Enrollafent in The Duke University Summer Session

Director, The Summer Session
Date
Duke University, Durham, North Carolina
Dear Sir:
Please reserve a place for me in the following courses listed in the Summer Session Bulletin.

> No. of Course Title of Course
(Signed)
Mr., Mrs., Miss
Street address, Rural Route, or P.O. Box $\qquad$

In what school or college are you seeking to enroll: (check) Undergraduate credits: Trinity College (Men) ............ ; Woman's College ............ ; College of Engineering $\qquad$ .; Forestry ..............; General student (un Graduate credits: Arts and Science ............ ; Divinity ............ ; Forestry ............ ; General (unclassified)

Do you wish a room reserved for 1 st term $\qquad$ 2nd term $\qquad$ 3rd term $\qquad$ ?

Are you at present a college student? $\qquad$ If so, where? $\qquad$
What class?
Are you a full-time teacher? $\qquad$
Name and address of school $\qquad$
Teaching position
Total number years teaching experience $\qquad$
Will your fees be paid by (a) Yourself
(b) Veterans' Adminis.

Have you attended previous Summer Sessions at Duke: Yes ;
$\qquad$

## DUKE UNIVERSITY SUMMER SESSION

## APPLICATION FOR DORMITORY ROOM

Women students should address their applications for room reservations, and all correspondence concerning such reservations, to: Woman's College Housing Bureau, College Station, Durham, N. C.; men should address theirs to: University Housing Bureau, Duke Station, Durham, N. C.

Room assignment will not be made until the applicant's admission to the Summer Session is certified by the Summer Session Office. Rooms may be reserved only upon payment of full room rent. Rental fees for a six weeks period are as follows : single room, $\$ 30.00$; double room, $\$ 42.00$ or $\$ 21.00$ per person. These fees are refundable provided the applicant cancels his room reservation at least 15 days before the opening of the session for which he is applying for admission.

If the applicant requests a double room but gives no preference of roommate, Bureau officials will try to assign a roommate of seemingly congenial interests. It is understood, however, that the responsibility for getting and keeping a roommate rests with the applicant; otherwise, it will be necessary for him to move to a single room or to make the indicated financial adjustment.
Name
Date.

Present address.
Permanent address

## (Address to which mail always will be forwarded)

Present position
Address
Academic degrees earned

> (College conferring) (Degree)
(Date conferred)

If you are in college now, give name of institution and your class:
(Name of college)
(Class)
Department of your major subject.
Will you be writing a thesis this summer? Yes............ No.
Date of your expected arrival at Duke for the Summer Session.
Number of weeks you expect to remain
Type of room desired: Single.
Double

Name of preferred roommate, if any
Address
(2)

## BULLETIN <br> O F

## DUKE UNIVERSITY

## The School of Law

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durhan, N. C.

For Bulletin of Undergraduate Instruction; apply to The Secretary, Duke University, "Durhaḿ, N. C.

For Bulletin of The College of Engineering, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forcstry, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dcan of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dian of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of Tife Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The School of Lan, apply to The Dean of the School of Laze, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Suinner Session, Duke University, Durham, N. C.

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## BULLETIN

## of

# Duke University 

THE SCHOOL OF LAW



ANNOUNCEMENTS FOR 1950-1951


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## I. FACULTY

## ARTHUR HOLLIS EDENS, B.Ph., A.M., M.P.A., Ph.D., LL.D., President of the University

W. BRYAN BOLICH, A.B., B.A. (Juris.), M.A., B.C.L., Professor of Lave
A.B. 1917, Duke University; Duke University Law School, 1919-21; B.A. (Juris.) 1923, B.C.L. 1924, M.A. 1928, Oxford University; general practice, 1924-27; Professor of Law, Duke University, since 1927.

## JOHN S. BRADWAY, A.B., A.M., LL.B., Professor of Law and Dircetor of the Legal Aid Clinic

A.B. 1911, A.M. 1915, Haverford College; LL.B. 1914, University of Pennsylvania; general practice, 1914-29; Legal Aid Society of Philadelphia, 1914-20; chief counsel, Philadelphia Legal Aid Bureau, 1920-22; Secretary, National Association of Legal Aid Organizations, 1923-40, President, 1940-42; Visiting Professor of Law and Director of the Legal Aid Clinic, University of Southern California, summer 1928; Professor of Law and Director of the Legal Aid Clinic, University of Southern California, 1929-31; Visiting Professor, University of North Carolina School of Social Work, Winter and Spring Quarters, 1949 and 1950; Professor of Law and Director of the Legal Aid Clinic, Duke University, since 1931.

## EDWIN C. BRYSON, LL.B., Associate Professor of Laze

University of North Carolina, 1922-25; Duke University, 1932-33; LL.B. 1937, University of Oregon; general practice, 1927-30; assistant in Duke University Legal Aid Clinic, 1931-47; Duke University Counsel since 1945; Associate Professor of Law, Duke Unversity, since 1947.
BUEFORD GILBERT HERBERT, Assistant Professor of Law; Associate Editor, Law and Contemporary Problems
University of Louisville, 1942-43; Emory University, 1943-44; Duke University, 1944; LL.B. 1948, University of Louisville; LL.M. 1949, Duke University; Assistant Professor of Law, Duke University, since 1949.
H. CLAUDE HORACK, Ph.B., LL.B., LL.D., Professor of Law Emeritus

Ph.B. 1899, LL.B. 1900, State University of Iowa; LL.B. 1904, Harvard University; LL.D. 1937, Tulane University; LL.D. 1939, Wake Forest College; Assistant Professor of Law, University of Wisconsin, 1904-07; Professor of Law, State University of Iowa, 1907-30; University of Michigan, summer 1922; University of Wisconsin, summer 1924; University of Southern California, summer 1931; Stanford University, summer 1936; Adviser, Council of Legal Education and Admissions to the Bar of the American Bar Association, 1927-30, member of Council, 1940-45; Secretary, Association of American Law Schools, 1926-28, President, 1929. Dean and Professor of Law, Duke University, 1934-47; Professor of Law, 1930-34, 1947-48; Professor of Law Emeritus, since 1948.
robert Kramer, A.B., LL.B., Professor of Law; Editor, Law and Contemporary Problems; and Editor, Journal of Legal Education
A.B. 1935, LL.B. 1938, Harvard University; Counsel, National Labor Relations Board, 1938-40; Counsel, Anti-Trust Division, Department of Justice, 1941-42; Military service, 1940-41, 1942-46, Lieutenant Colonel, Ordnance Department, Army of the United States, I.egal Division, Office Chief of Ordnance, general counsel, Research and Development Service, Ordnance Department; general practice, 1946-47; Associate Professor of Law, Duke University, 1947-49; Professor of Law, since 1949.

## ELVIN R. LATTY, B.S., J.D., J.Sc.D., Professor of Law

B.S. 1923, Bowdoin College; J.D. 1930, University of Michigan; J.Sc.D. 1936, Columbia University; Instructor in Romance Languages, University of Vermont, 1923-27; general practice, 1930-33; Special Fellow, Columbia University, 1933-34; Associate Professor of Law, University of Kansas, 1934-35; Professor of Law, University of Missouri, 1935-37; George Washington University, summer 1937; Stanford University, summer 1938; Univerity of North Carolina, summer 1942, 1947, 1949; Special Assistant to the American Ambassador, Caracas, 1942-43; Acting Assistant Chief, Foreign Funds Control Division. Department of State, 1943; Professor of Law, Duke University, since 1937.

Charles H. LIVENGOOD, JR., A.B., LL.B., Associate Professor of Law
A.B. 1931, Duke University; LL.B. 1934, Harvard University; general practice, 1934. 40; Regional Attorney for the Seventh Region, Wage and Hour Division, U. S. Department of Labor, 1940-41; Chief Wage-Hour Section, Office of the Solicitor of Labor, 1941-42; Lieutenant (j.g.) and Lieutenant, U.S.N.R., 1942-45; in general practice, 1945-48; lecturer on Labor Lazw and Criminal Law, Duke University, 1946-48; University of North Carolina, summer 1948; George Washington University, summer 19+9; Associate Professor of Law, Duke University, since $19+8$.

## CHARLES L. B. LOWNDES, A.B., LL.B., S.J.D., Acting Dean and Professor of Law

A.B. 1923, Georgetown University; LL.B. 1926, S.J.D. 1931, Harvard University; general practice, 1926-27; Assistant Professor of Law, Georgetown1 University, 1927-28; Professor of Law, Georgetown University, 1928-30; Research Fellow, Harvard Law School, 1930-31; Professor of Law, Georgetown University, 1931-34; Professor of Law, Duke University, since 1934.

MALCOLM McDERMOTT, A.B., LL.B., Professor of Law<br>A.B. 1910, Princeton University; LL.B. 1913, Harvard University; general practice, 1913-30; Dean, College of Law, University of Tennessee, 1920-30; University of Southern California, summer 1929; Professor of Law, Duke University, since 1930.

## DOUGLAS BLOUNT MAGGS, A.B., J.D., S.J.D., Professor of Lazw

A.B. 1922, J.D. 1924, University of California; S.J.D. 1926, Harvard University; general practice, 1924-25; Assistant Professor of Law, University of California, 1926-27; Professor of Law, University of Southern California, 1927-30; Visiting Professor of Law: Columbia University, 1928-29; Yale University, second semester, 1935-36; University of California, summer 1927; Cornell University, summer 1928; University of Chicago, summer 1929; University of Southern California, summer 1930; Stanford University, summer 1935; University of North Carolina, summer 1936, 1948; Special Assistant to the Attorney General of the United States, 1938-39 and 1942-43; Chief of Wage-Hour Unit, Department of Justice, 1939; Chief Consultant to the General Counsel, Board of Economic Warfare, 1942; Chief Legal Consultant, Office for Emergency Management, 1942-43; Solicitor, United States Department of Labor, 1943-45; Professor of Law, Duke University, since 1930.

JOHN deJ. PEMBERTON, JR., A.B., LL.B., Associate Professor of Laze; Associate Editor, Law and Contemporary Problems; and Assistant Editor, Journal of Legal Education
A.B. 1940, Swarthmore College; LL.B. 1947, Harvard University; Associate Professor of Law, Duke University, since 1947.

## DALE F. STANSBURY, B.S., LL.B., J.S.D., Professor of Law and Faculty

 Director of Lazu LibraryB.S. 1914, Valparaiso University; LL.B. 1917, Indiana University; J.S.D. 1929, Yale University; Sterling Research Fellow, Yale University, 1928-29; Deputy Attorney General of Indiana, 1918-24, 1928; private practice, 1925-27; Professor of Law, Mercer University, 1929-35; Dean and Professor of Law, Wake Forest College, 1935-44; Professor of Law, University of Tennessee, 1944-46; Duke University, since 1946.

## ROBERT RENBERT WILSON, A.B., A.M., Ph.D., LL.D., Professor of Political Science and Lecturer in International Law

A.B. 1918, Austin College; A.M. 1922, Princeton University; Pl.D. 1927, Harvard University; LL.D. 1940, Austin College; Carnegie Fellow in International Law, 1922-23, 1924-25; Member, Executive Council, American Society of International Law, 1929-32, 1936-39, 1944-47; Member, Advisory Committee, Harvard Research in International Law, since 1935; Member, Board of Editors, American Journal of International Law, since 1937; United States Department of State: Assistant, Treaty Division, 1931-32; Adviser on Commercial Treaties, 1944-46 (temporarily detailed to American Embassy in China, 1946); Consultant on Commercial Treaties, since 1946; Assistant Professor of Political Science, Duke University, 1925-27; Associate Professor of Political Science, Duke University, 192729; Professor of Political Science, Duke University, since 1929; Chairman, Department of Political Science, Duke University, 1934-1948; Lecturer in International Law (School of Law), since 1948.

## ASSISTANTS IN LEGAL AID CLINIC

S. C. Brawley, Jr.

Samuel Fox Gantt, A.B., Ll.B.
Alton J. Knight, A.B., LL.B.

Wallace H. McCown, A.B., LL.B. Richard Sanders, A.B., LL.B.

## VISITING LECTURERS IN LAW

Victor S. Bryant, A.B.
Leon L. Rice, Jr., A.B., LL.B.

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Lina W. Williamson, Secretary to the Dean

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Committee on Curriculum: Mr. Maggs, Chairman; Messrs. Kramer, Latty, Lowndes, Pemberton, and Stansbury.
Committee on Graduate Study: Mr. Latty, Chairman; Messrs. Bolich and Stansbury.
Committee on Pre-Legal Affairs: Mr. Bradway, Chairman; Messrs. Pemberton and Lowndes.
Committee on Relations with Bench and Bar: Mr. McDermott, Chairman; Mr. Bryson.
Committee on Student Affairs: Mr. Bradway, Chairman; Mr. Latty.
Law and Contemporary Problems Editorial Adzisory Board: Mr. Lowndes, Chairman; Messrs. Bradway, Latty, and Stansbury.

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R. G. Cherry, Gastonia, North Carolina
N. A. Cocke, Charlotte, North Carolina
J. P. Frizzelle, Snow Hill, North Carolina

## II. CALENDAR 1950-51

1950
Sept. 20 Wednesday-Registration.
Sept. 21 Thursday, 9:00 A.m.-Classes begin.
Nov. 23 Thursday-Thanksgiving day; a holiday.
Dec. 20 Wednesday, 5:00 P.m.-Christmas recess begins.
1951
Jan. 4 Thursday, 9:00 A.m.-Classes resumed.
Jan. 16 Tuesday, 5:00 p.m.-Fall semester classes end.
Jan. 18 Thursday-Mid-year examinations begin.
Jan. 27 Saturday-Mid-year examinations end.
Jan. 29 Monday, 9:00 A.M.-Spring semester classes begin.
March 24 Saturday, 1:00 p.m.-Spring vacation begins.
April 2 Monday, 9:00 A.m.-Classes resumed.
May 19 Saturday, 1:00 P.M.-Classes end.
May 21 Monday-Final examinations begin.
May 30 Wednesday-Final examinations end.
June 2-4 Saturday through Monday-Commencement exercises.

## III. THE SCHOOL: ITS PURPOSES AND METHODS

Built on the foundation of the School of Law of Trinity College, with its history of legal instruction running back to the middle of the past century, the Duke University School of Law was established in 1924. In 1930 the School was moved into its present building, the Faculty and library were greatly increased, and the activities of the School broadened. The School of Law is a member of the Association of American Law Schools and is on the "Approved List" of the American Bar Association. More than thirty-five states and one hundred institutions of higher learning are represented in its student body.

The curriculum of the School of Law provides thorough preparation for the practice of law in any state; its graduates have been admitted to the bar in forty states and the Territory of Hawaii. Opportunities for specialization in particular branches of the law are afforded.

In carrying out the trust imposed by the indenture establishing the Duke Endowment, the School of Law seeks to have the student acquire knowledge and comprehension not only of legal doctrine, but also of the judicial process and of the social, economic, and political problems with which law and lawyers must deal. The method of instruction employed compels analysis of judicial opinions and inquiry into the non-legal as well as the legal considerations which underlie them. In appropriate courses, special consideration is given to the work of the legislative and administrative agencies of government. In recognition of the increasing importance of the role of the lawyer in representing private interests before govermment agencies and in government service, an unusually broad program is offered in the public law field. Scope for creative student work is provided by seminar courses and supervised individual study and research.

Practical training is not left for the first years of practice. A carefully integrated series of courses is designed to give students actual experience in the work of lawyers. Legal research and writing courses and moot court work in the first and second years are followed in the third by seminar courses emphasizing legal planning and drafting and by practice courses and work in the Legal Aid Clinic. A student bar association affords a means whereby the student may gain acquaintance with the professional organizations through which a lawyer may and should contribute to the well-being of his profession and of society.

For details of the program of study see Program of Instruction, page 22. The separate courses are described on pages 26 through 32.

## IV. ADMISSION OF STUDENTS-REGISTRATION-FEES

## DIRECTIONS TO APPLICANTS FOR ADMISSION

Application must be made on the prescribed Law School application blank which will be sent upon request. No application can be finally passed upon until all required documents are on file. These documents are: (1) the application itself, to which a recently made personal photograph should be attached; (2) a complete transcript of record and evidence of graduation or right to honorable withdrawal from the institution from which credit is offered; (3) letters from (a) a responsible official of the college attended, (b) a responsible person in the applicant's home community, and (c) the applicant himself, in his own handwriting, containing a statement of his general activities, and intellectual interests with special reference to reasons for wishing to attend law school; (4) a report of the applicant's score on the Law School Admission Test described below.

The Law School seeks to select students who give promise of leadership in some of the various phases of professional activity. Applicants for admission and their sponsors are requested to keep this fact in mind.

The Law School Admission Test, referred to above, is administered by the Educational Testing Service and is participated in by a number of the leading law schools of the country. It is given four times a year at examination centers conveniently located throughout the United States. No special preparation for the test is necessary, since it is designed to measure aptitudes rather than knowledge of subject matter. The applicant's score on the test will be considered along with other data in passing upon his admission to the Law School. Application forms and information concerning the test should be procured by writing directly to the Educational Testing Service, P.O. Box 592, Princeton, New Jersey.

## TIMES OF ADMISSION

Beginning students may enter only at the opening of the Fall semester in any year. Students who have completed the first year of law study at this or any other law school approved by the Association of American Law Schools may enter at the beginning of any semester.

## REQUIREMENTS FOR ADMISSION

An application for admission as a candidate for the degree of Bachelor of Laws may be submitted by any person (1) who is a graduate of a college of approved standing and who has maintained a minimum average of "C" on all work taken, or (2) who has completed in a college of approved standing work equivalent in number of units to three-fourths of that required for graduation and whose college work in its entirety shows an average grade equal to that required for graduation, the requirement
in each case being determined by the regulations of the college where the work was taken.

Special provisions for the admission of veterans, whereby military service may be substituted for one year of the three years of college required for admission, are stated below.

## VETERANS' ADMISSION REQUIREMENTS

Any person who served in active military or naval service on or after September 16, 1940, and prior to the termination of the war, and who has been discharged or released therefrom under conditions other than dishonorable and who either has served ninety days or more (exclusive of any period he was assigned for a course of education or training under the Army Specialized Training Program or the Navy College Training Program), or has been discharged or released from active service by reason of an actual service-incurred injury or disability, may substitute such term of service for one year of the three years of college required for admission. Academic credits will be recognized if gained through examinations on work of college grade pursued while in the military or naval service, if such work is given credit by an approved college; such credits, however, may not exceed one year of the required two years of college study.

The Duke University School of Law has been approved by the Veterans Administration for law study under the provisions of the Vocational Rehabilitation Act, Public Law 16, and the Servicemen's Readjustment Act of 1944, Public Law 346, often referred to as the "G.I. Bill of Rights." An office is maintained at the University for the handling of the interests of the many students studying under the supervision of the Veterans Administration.

## COMBINED COURSE

A number of colleges, upon application by their students, have permitted those who have completed three years of undergraduate work to enter the Law School of Duke University and upon the satisfactory completion of the first year of law school work to receive their Bachelor of Arts degree from such colleges. It is suggested that students desiring to enter Duke University School of Law make inquiry of their proper college authorities regarding this point.

A student from an undergraduate college of Duke University who has completed three years of study may apply to that college to enroll in a combined course wherein his first year of law study may be accepted toward the Bachelor of Arts degree, and, upon the completion of four additional semesters of law study, he will receive the Bachelor of Laws degree.

## ADMISSION TO ADVANCED STANDING

Any person who has complied with the requirements for admission set forth in this announcement prior to the commencement of his law study, who presents evidence of the satisfactory completion of at least one year of study at any law school which is a member of the Association of American Law Schools, and who is eligible for readmission to the law
school from which he proposes to transfer, may be admitted to advanced standing, subject to such rules as would be applicable to students in this School having a comparable scholastic record. Provisional credit for courses so completed will be given, final credit being conditioned on the completion of at least one full year of law study in this School with an average at least five points above the passing grade. Adjustment of credit for work done in such other law schools may be made by the Dean or by vote of the Faculty.

## CANDIDATES FOR GRADUATE DEGREES

Applications for admission to graduate study should be addressed to the Dean of the Law School and should include transcripts of records of legal and pre-legal work. For the requirements for the graduate degrees, see pages 16 and 17.

## REGISTRATION

Registration must be completed on the first day of each semester. Instruction will begin in all classes on the following day. The applicant must obtain from the Dean of the Law School an admission card, indicating that he is entitled to register. Registration is conducted in the Law Building. All students, both old and new, are required to register at the beginning of each semester, at which time class schedules and course cards must be filled out and approved. Students who register in any semester at a date later than that prescribed are required to pay to the Treasurer of the University a penalty of $\$ 5.00$ for late registration unless excused therefrom. A student's registration for any semester is not complete until he has paid the tuition and fees for that semester. The $\$ 5.00$ penalty for late registration will be imposed, therefore, unless the student has paid his tuition and fees by registration day.

## REGISTRATION FOR BAR EXAMINATION

Many states now require that a student, prior to or shortly after beginning the study of law, register with the board of bar examiners of the state if he intends to practice therein. Each student should write to the secretary of the board of bar examiners of the state in which he plans to practice and ascertain if that state makes this requirement.

## CONDUCT OF STUDENTS

All students are admitted subject to the rules of the University and of the School of Law, and continuance in the School is conditioned upon the observance of such rules.

The University expects of its students loyal and hearty co-operation in developing and maintaining high standards of conduct as well as of scholarship. The University, therefore, reserves the right, and matriculation by the student is a concession of this right, to compel the withdrawal of any student whose conduct at any time is not satisfactory to the University.

## FEES AND EXPENSES

Tuition fees are due at the beginning of each semester. The tuition fee is $\$ 175.00$ a semester. In addition, a general fee of $\$ 50.00$ per semes-
ter is required in lieu of separate fees for matriculation, medical service, and the like.

The admission of an applicant is not final until he deposits the sum of $\$ 25.00$ with the Treasurer of the University. This deposit will not be returned. It will be credited to the account of the student or, if the student is entitled to the benefits of the Servicemen's Readjustment Act or the Vocational Rehabilitation Act, it will be refunded upon his matriculation.

An athletic fee of $\$ 5.00$, plus any Federal taxes that might be imposed, payable at the beginning of each Fall and Spring semester, is optional. Payment of the athletic fee entitles the student to admission to all athletic events on the campus.

The payment of the general fee entitles the student to full medical and surgical care, with the exceptions noted below. This service is under the direction of the University Physician with the co-operation of the staff of Duke Hospital. It includes hospitalization, medical and surgical care, drugs, dressings, X-ray studies, and ward nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes, treatment of teeth and of all chronic conditions, such as the removal of diseased tonsils, are not included in this service. The cost of any necessary braces and orthopedic appliances, as well as of special nursing, must be borne by the student.

## DINING SERVICE

Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day, depending on the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiplechoice menus and the Oak Room where full meals and a la carte items are served.

## THE GRADUATE DORMITORY AND THE "LAW CABINS"

Furnished double rooms may be secured in the graduate dormitory on the West Campus at $\$ 62.50$ per person per semester. A few single rooms are available at $\$ 87.50$ per semester.

A group of $\log$ cabins, a part of the dormitory system, especially designed as a study center for law students, is located in the Duke Forest about five minutes' walk from the Law Building. These cabins, five in number, including a large cabin for use as a social hall, house thirty-two students. All rooms in the law cabins are furnished double rooms and may be secured at $\$ 50.00$ per person per semester.

These charges in each case include heat, light, water, and janitorial service but do not include pillows or bed clothing of any kind.

Rooms are reserved only for applicants who have been officially accepted by the University, upon application to the Director in the Business Division, Duke Station, Durham, North Carolina. A reservation fee of $\$ 25.00$ must accompany the application for a room. The fee is deducted from the room rental charge at the time of registration for the semester; it is not refunded unless application for the refund is made sixty days prior to the registration date of the semester.

Each student is expected to supply necessary sheets, blankets, pillows, rugs, and curtains. Furniture, beds and mattresses ( $39^{\prime \prime} \times 74^{\prime \prime}$ ), tables, chairs, dressers, mirrors, and window shades are furnished by the University.

Law students are advised to make early application, since assignment of rooms is made considerably in advance of the beginning of each semester. The applicant should state that he has been accepted for admission to the School of Law. All dormitory or cabin rooms are to be occupied under the rules and regulations established by the University. Law students are not required to live in the University dormitories.

## LAWS REGARDING PAYMENTS

The Executive Committee of Duke University has enacted the following regulations which govern the payment of all fees due the University:

1. The President and the Treasurer of the University have no authority to suspend or in any way alter these regulations.
2. Any student who has failed to pay his bills on the dates advertised in the catalogue is denied the right to attend classes until his account is settled in full; subsequent withdrawal does not entitle a student to a refund.
3. No student is considered by the Faculty as an applicant for graduation until he has settled with the Treasurer for all his indebtedness to the University.
4. No student who has not settled all his bills with the Treasurer of the University is allowed to stand the midyear or final examinations of the academic year.

When a student wishes his bills sent to his parents or guardian, the student or his parent or guardian must so notify the Treasurer of the University in writing in due time, but this in no way releases the student from liability to established penalties, if his bills are not paid on the dates advertised.

> Further information will be sent upon request. Address
> The Dean of the School of Law Duke University
> Durham, North Carolina

## V. BACHELOR OF LAWS DEGREE

## REQUIREMENTS FOR THE BACHELOR OF LAWS DEGREE

Upon favorable recommendation of the Faculty, the degree of Bachelor of Laws will be conferred on students who shall have successfully completed six semesters' study of law, the last two semesters of work immediately preceding the granting of such degree having been completed in this School.

A student shall be deemed to have completed successfully six semesters' study of law if during this period he has
(1) secured a passing grade in courses aggregating the number of semester hours in the first-year program, plus forty-eight semester hours, including all courses required for graduation ;
(2) secured in every required course a grade not requiring repetition thereof ; and
(3) secured an average grade at least five points above passing in all work taken other than first-year courses, or, if the grade in such work is lower than that above specified, an average grade of five points above passing in all work taken.

Students who have spent only their last two semesters of study in residence in this School must have received an arerage grade at least five points above passing for that year.

## MINIMUM AND MAXIMUM STUDENT LOADS

No regular student is permitted to take less than ten course hours per semester. No first-year student is permitted to take courses in excess of the first-year program.

Second- and third-year students are not permitted to take for credit more than fifteen course hours per semester; nor to audit and take for credit more than sixteen course hours per semester. In exceptional cases, students may petition the Faculty for permission to take more or less than the prescribed maximum or minimum loads.

## STANDARDS OF SCHOLARSHIP

Grades. The final grades in each course are given in numerical terms which are equivalent to letter grades according to the following scale: 80 to $100, \mathrm{~A} ; 70-80, \mathrm{~B} ; 55-70, \mathrm{C}: 50-55, \mathrm{D}: 0-50, \mathrm{~F}$.

Grade averages are computed by multiplying the numerical grade in each course by the number of semester hours in that course and by dividing the sum of such products for the courses for which the average grade is sought by the sum of the semester hours in such courses.

A grade of 50 is necessary for passing a course. Where a grade below 50 is given a student in any required course, the course must be repeated if the instructor reports the grade with the notation "must repeat." When
a student is required by the instructor to repeat a course which he has failed, the grade given after such repetition supersedes the previous grade in the course.

Eligibility to Continue Law Study. Any student who at the end of his first year or at the end of any subsequent semester, has an average grade lower than 50 on all the work then taken is ineligible to continue his work in the School. Any other student (1) whose average final grade at the end of his first semester is below 50 , or (2) whose average grade at the end of any subsequent semester on all the work then taken is below 55, or (3) who in any single semester or in any single year receives failure grades in courses totaling eight or more semester hours, may at any time be declared by the Dean ineligible to continue.

Notification of Unsatisfactory Scholastic Standing. Every student subject to the provisions of the second sentence of the paragraph above, who has not been declared ineligible to continue his work in the School will be given a formal, written notice by the Dean's Office. This notice will set forth his average grade or grades and inform him (1) that he will be subject for the ensuing year to the special supervision of the Dean who may order his dismissal from the School in the event of his failure to maintain a satisfactory scholastic standard, and (2) that he will be ineligible to receive a degree unless his work meets the scholastic requirements for graduation which will be set forth in full in such notice.

Every other student whose average final grade at the end of any semester on the work of that semester, or on all work then taken, does not exceed the minimum average grade required for graduation by more than two points will be given a notice similar to that provided for above.

## VI. GRADUATE WORK IN LAW

## OBJECTIVES OF THE GRADUATE STUDY PROGRAM

The graduate program of the School of Law is framed with a view to the encouragement and recognition of legal scholarship. It is addressed to the needs of those who have objectives consistent with the purposes of graduate legal education. It provides training for the qualified student who aspires to a teaching career, or who wishes to become proficient in a special field of the law, to do serious legal research, to prepare himself for a public law practice in or out of government, or to acquire a broader and deeper legal education than the undergraduate curriculum offers.

## ADMISSION TO CANDIDACY FOR THE DEGREE OF MASTER OF LAWS

Any person who has received the first degree in law from a law school qualified for membership in the Association of American Law Schools may be admitted as a candidate for the degree of Master of Laws, provided he satisfies the Committee on Graduate Study that his objective in desiring to do graduate work in law is consistent with the purposes for which the program is offered, and provided he demonstrates to the Committee, on the basis of his law school record, his capacity to take and profit by graduate work in law. In exceptional cases an applicant who does not meet the above requirements may, on vote of the Faculty, be admitted to candidacy for this degree if he is able to demonstrate that he is specially qualified, as by reason of practice or teaching. Normally the applicant will be required to show a level of scholarship appreciably higher than that required for the first degree in law at the institution from which he received that degree. An exceptionally high record in law school and in the graduate study program is expected of those who aspire to a teaching career. It should be emphasized that the graduate study program is designed for graduates with a definite objective, not for those who seek to pursue further law study simply from disorientation.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF LAWS

The degree of Master of Laws is reserved for students who, having demonstrated their capacity for graduate work in law, maintain a level of scholarship substantially higher than that required for the degree of Bachelor of Laws in a course of study which involves distinctively graduate work.

The candidate for this degree is required to complete a course of study comprising not less than twenty nor more than twenty-six semester hours, or approved research equivalent thereto. Two full semesters are required for the completion of this program. A candidate for this degree is required to include in his course of study at least two of the following courses: International Law, Jurisprudence, and Legal History. In addition to the minimum requirement of twenty semester hours, the candidate
is required to submit an essay representing substantial research on a legal subject. This essay is to be prepared under the supervision of the instructor in charge of the field in which the research is done. The candidate will find it helpful to have formulated a project of research, or alternative projects, before his admission to graduate study.

The candidate's course of study will be selected, ordinarily, from the following list of courses: Public Regulation of Business Seminar, Jurisprudence, Conflict of Laws, International Law, Legal History, Banking, Corporate Planning, Debtors' Estates, Insurance, Corporate Reorganization, Credit and Insolvency, Family Law, Family Law Seminar, Future Interests, Tax and Estate Planning, Labor Relations, Labor Standards, Labor Law Seminar, Federal Taxation I, Federal Taxation II, and State Taxation. This program of study is not inflexible. In appropriate cases the candidate will be encouraged to take related work in other departments of the University. Other courses of comparable content may be substituted for those listed. In special circumstances, credit not in excess of two hours per semester may be arranged for special, supervised research projects.

## ADMISSION TO CANDIDACY FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Any person holding the degree of Master of Laws from this or any other law school which is qualified for membership in the Association of American Law Schools may, on vote of the Faculty, be admitted to candidacy for the degree of Doctor of Juridical Science, provided he completed the work for the Master's degree with distinction.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Upon favorable recommendation of the Faculty, the degree of Doctor of Juridical Science will be conferred on students admitted to candidacy for that degree who complete and submit a monograph or series of essays suitable for publication and deemed by the Faculty to be of distinguished character. At least one academic year, and, in the absence of an extension granted by the Faculty, not more than three years, must elapse between the award of the Master's degree and the award of the degree of Doctor of Juridical Science. Students who have received the degree of Master of Laws from another law school must spend at least two full semesters engaged in research at this School, and in addition may be required to complete a course of study prescribed by the Committee on Graduate Study. The monograph or series of essays required may be based upon, or be an extension of, the essay required for the Master's degree, provided substantial additional research is represented.

## POST-GRADUATE AND REFRESHER COURSES

The School of Law provides instruction for students not meeting the requirements for admission to candidacy for graduate degrees who desire refresher courses or who desire simply to complete a fourth year of law school work. The successful completion of the courses taken by such students may be evidenced by certificate of the Dean.

## VII. FACILITIES AND ACTIVITIES

## THE LAW SCHOOL BUILDING

The Law Building, like all other structures on the main campus of Duke University, is in Tudor Gothic style of colorful Cambrian stone from the Duke University quarries. It was occupied by the School of Law for the first time in September, 1930. In it are classrooms, seminar rooms, offices for Faculty and Staff, quarters for the Legal Aid Clinic and for the Duke Bar Association, a courtroom equipped for trial court and appellate court sessions, and the Law Library. For a description of dormitory accommodations, see page 12.

## THE LAW LIBRARY

The Law Library, containing a collection of over eighty-seven thousand volumes, is the largest law school collection in the South. It consists of American and English statutory and case law; a collection of Continental law materials; treatises, digests, encyclopedias; the various selected case series; a comprehensive collection of legal periodicals; and publications in the fields of history, economics, government, and the other social sciences, supplemental to the strictly legal materials. The Library receives every current legal periodical of general interest printed in the English language.

There are several thousand additional volumes of a legal nature in the main University library building, immediately adjoining the Law School, as well as the general collection of over half a million volumes, to all of which the law students and Faculty have convenient access.

The Law Library is administered by a professionally trained staff and is open to the public daily throughout the year and in the evenings, as well, whenever the Law School is in session.

## THE LEGAL AID CLINIC

A Legal Aid Clinic was organized at the School of Law in 1931 under the direction of Professor John S. Bradway. The purpose of the Clinic is threefold: to give the student experience in handling actual cases; to develop creative skills, techniques, and mental habits; to encourage a sense of responsibility to client, court, profession, and community. The student is obliged to synthesize his knowledge in applying it to concrete situations which may often cut across course boundaries. He is introduced to the technique of fact gathering, the steps in a legal plan of campaign, the handling of clients, the management of a law office. A series of exercises is conducted in legal research and briefing, leading in the first semester to the writing by each student of a trial brief and in the second semester an appellate brief for a lawyer in active practice. Classroom work involves laboratory exercises in preparation for the handling of actual cases. The law practice in the Clinic is of a sort calculated to stress the ethical responsibilities of the lawyer and the social implications
of his work. Instruction in the handling of the actual cases is individualized. Training in the art of interprofessional co-operation is provided through contacts between the Clinic and various agencies of social welfare in North Carolina.

The Legal Aid Clinic is in effect an active law office offering the student, under supervision, experience in interviewing actual clients, investigation of facts, preparing cases for adjustment or for trial in court, writing legal documents, briefing, and other tasks familiar to the practicing attorney. Approximately four hundred persons a year apply for the services of the Clinic. Only those applicants who are unable to pay counsel fees, and only those cases where there is no opportunity for a contingent fee are accepted.

The activities of the Clinic are centered in a suite of offices in the Law School building, and in an interviewing office in the business center of Durham. In addition to the Director, a staff of five members of the North Carolina State Bar assists in the educational and supervisory activities of the Clinic and in representing its clients in court proceedings.

## LAW AND CONTEMPORARY PROBLEMS

The School of Law publishes a quarterly, Law and Contcmporary Problcms, under the editorship of Professors Robert Kramer, John deJ. Pemberton, Jr., and Bueford G. Herbert. This periodical, now in its fifteenth volume, presents in each issue a symposium on a problem of current importance, in which the interrelated social and economic, as well as legal, factors are discussed by writers of competence in these respective fields. Where student research may contribute to the understanding of the legal aspects of such problems, student writings are accepted for publication. Issues to be published this year will feature discussions of air cargo, delivered price systems, private insurance, and regulation of insurance.

The circulation of Lazi and Contemporary Problems extends not only to members of the legal profession and law libraries throughout the country, but also to industrial and financial concerns, governmental agencies, and public and general university libraries. Individual issues are not infrequently used as materials for study in university courses.

## JOURNAL OF LEGAL EDUCATION

The Journal of Legal Education, a quarterly, is also edited at the School of Law under the direction of Professors Robert Kramer and Iohn de... Pemberton, Jr. The publication serves as the organ for the Association of American Law Schools, providing a clearing house for ideas and professional studies in the constantly expanding field of legal education. The editorial policy of the Journal of Lcgal Education is determined by an editorial board named by the Association, assisted by an advisory committee consisting of prominent legal educators and practicing attorneys.

## THE DUKE BAR ASSOCIATION

The Duke Bar Association was established in the spring of 1931. It is open to all the students of the Law School and is organized along the
lines of the American Bar Association. Its purpose is to introduce the student to the problems considered by the bar in professional organizations and to develop professional consciousness and responsibility. A Faculty Committee on Student Affairs serves as general adviser to the student officers.

## MOOT COURTS

A program of student Moot Court arguments is conducted under the supervision of the Faculty as a part of the courses in Research and Writing in which all students are required to participate.

## SCHOLARSHIPS AND LOAN FUNDS

Scholarships covering tuition ( $\$ 350$ ) are available to a limited number of first-year students, graduates of approved American universities and colleges, who are in need of such assistance. Applicants must have made excellent records in their college work and must show unusual promise of success in the study of law.

Applications for scholarships should be presented to the Dean of the Law School, together with a transcript of college work and letters of recommendation from responsibie persons, certifying to the character and fitness of the applicant.

Other scholarships are awarded, as funds may permit, to high ranking students who have spent a year or more at the Law School. There are also a number of positions as assistants in the Law Library and as research assistants which are open to students, particularly in their second or third year, who do not receive other aids from the University.

The University administers certain endowed loan funds for the benefit of students who are not able to meet their expenses, for the purpose of helping worthy students who have established a satisfactory record at the School to continue their education.

Two funds have been provided out of which small loans may be made to tide students over temporary financial emergencies arising during the course of the year. One of these was supplied by the Law School Guild and is limited as to amount and duration of loan. The other is due to the generosity of Mr. P. Frank Hanes of the Winston-Salem bar and is limited to the needs of selected students. These funds are administered by a committee of the Faculty.

## GRADUATE LAW FELLOWSHIPS

Two graduate fellowships carrying a grant of $\$ 1,500$ each are awarded each year. To be eligible for these fellowships, applicants must have completed with distinction the work required for the first degree in law at this Law School or some other school approved by the Association of American Law Schools, and must have been admitted to candidacy for the LL.M. or J.S.D. degree. Preference will be given to students who plan to make law teaching a career. All applications should be addressed to the Dean of the School of Law, Duke University. Fellowships will be awarded by the law faculty on recommendation of the Committee on Graduate Study.

## WILLIS SMITH PRIZE

Mr. Willis Smith, a member of the Raleigh bar and Chairman of the Board of Trustees of Duke University, awards annually to that member of the graduating class of the Law School who has maintained the highest scholastic average during the entire three years of law school work, a prize consisting of a set of books selected personally by Mr. Smith each year for that purpose. To quality for this prize the student must have made an outstanding record through his law school course.

## JAMES F. BYRNES SENATE PRIZE

Delta Theta Phi Foundation, Inc., through the James F. Byrnes Senate, awards each year to that member of the first-year class of the Law School who has completed the work of the first year with the highest scholastic average during that year a cash prize of fifty dollars.

ORDER OF THE COIF
A clapter of the Order of the Coif, national legal scholarship society, has been established at Duke University School of Law. Its purpose is "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship." Election is restricted to the ten per cent of the graduating class who have attained the highest rank in their law school work.

## LEGAL FRATERNITIES

Three of the largest national legal fraternities maintain active chapters at the School of Law. The Charles Erans Hughes Inn of Plii Delta Phi International Legal Fraternity was founded at the School of Law in 1931. The Wiley Rutledre Cliapter of Phi Alpha Delta Law Fraternity was founded at the School in 1946. In 1947 the James F. Byrnes Senate of Delta Theta Phi Law Fraternity was installed at the School. All three fraternities seek to further professional standards. Students may be elected to membership at any time following their first full semester of law study. During the school year the fraternities sponsor separate prograns of luncheons featuring prominent local speakers from the profession, an annual address by an attorney of national prominence, and occasional social functions.

## RECREATIONAL FACILITIES

The University is located about two miles from the business district of Durham on wooded hills constituting part of the five-thousand-acre Duke Forest. which is maintained by the School of Forestry. Within a short distance from the campus are facilities for golf, horseback riding, and woodland hiking. Students of the Law School are entitled to the use of the University gymnasium, tennis courts, swimming pool, and similar privileges without cost. Motion pictures are shown in Page Auditorium twice a week, and concert programs, recitals, lectures, and plays are presented frequently.

## VIII. PROGRAM OF INSTRUCTION

The program of instruction of the School of Law has been thoroughly revised as a result of studies made by the Faculty. The curriculum had become overcrowded. For years new courses have been added at this and other schools as new fields of law have become important ; old courses have been retained. Students who wished to specialize in particular fields often found it necessary to omit some of the older, more fundamental courses. Insufficient attention had been given to legal writing, the drafting of legal instruments, and legal planning.

The newly adopted curriculum is designed to insure that students may prepare to specialize in practice without foregoing any part of the basic legal education required for general practice and desirable for all specialists. Courses have been combined; duplications in courses have been eliminated. The larger part of students' third year has been opened for studies of specialties. New courses and seminars have been added, especially in the third year in which teaching methods will be different from those used in the older courses. In these courses and seminars legal writing and drafting and legal planning will be emphasized.

The courses offered are listed below. They are grouped under three headings: First-Year Program; Recommended Second-Year Program, and Third-Year Courses. At page 26 the individual courses are described; in that section of the Bulletin they are grouped under the following headings: 1. General Courses: 2. Business Courses; 3. Property Courses; 4. Public Law Courses; 5. Procedure and Practice Courses.

The First-Year Program is prescribed. It includes basic courses in the fields of contracts, business associations, property (including sales and other chattel transactions), and torts. These courses serve also to acquaint the student with the nature of the judicial process (which is stressed in Chattel Transactions), the court system and court procedure (stressed in Torts), and legal history (stressed in the second property course and in other courses). In the field of public law, legislation and the legislative process are studied in the first semester; there follows in the second semester a course in the fundamentals of criminal law and its administration. A course in research and writing (which is continued throughout the second year), after consideration of how the law is found in law books, trains students in writing memoranda of law and legal arguments and in drafting legal documents : the course emphasizes, for each student, the law of the state in which he intends to practice, and introduces students to the art of legal planning. It includes the preparation of briefs and the arguing of moot court cases.

The Recommended Second-Year Program comprises nearly all the other basic courses which all students need regardless of what kind of law prac-
tice they plan to enter and the courses prerequisite to third-year work in special fields and in legal planning. Third-year courses may be substituted for courses in this program with the consent of the instructor and Dean. The research and writing course continues throughout the year. The basic work in property and business associations is completed. In the field of business transactions, the students study negotiable instruments and credit. A course in federal taxation, basic to advanced third-year work for specialists, adequately covers the subject for students not planning to specialize in it. Legal and equitable remedies, and court procedure in civil cases, are studied in the course in remedies. Students continue their study of public law in courses in constitutional and administrative law.

The Third-Year Courses (of which an aggregate of 10 to 15 hours each semester is to be selected by each student) are designed to emphasize legal planning and drafting and to enable students to equip themselves to specialize in particular fields. The faculty recommends that all students complete their basic legal education by taking courses in evidence and legal ethics. There are also fundamental courses in legal history and jurisprudence and in conflict of laws and international law. The rest of the third-year courses are in specialties; they are grouped below under the headings (1) business (including inter alia advanced corporation law), (2) estates, family, and property, (3) procedure, practice, and local law, and (4) public law (including inter alia labor law and taxation). A number of these specialty courses (those preceded by asterisks in the list below) emphasize legal planning and drafting. Each student is required to include two of these courses in his third-year program; enrollment in each is limited.

## THE FIRST-YEAR PROGRAM

Semester HoursFall SpringChattel Transactions ..... 2 ..... 2
Contracts ..... 3
Estates in Land ..... 3
Research and Writing I ..... 1
Torts [Including some Procedure] ..... 3
Criminal Law ..... 3
Legislation ..... 3
Business Associations I [Agency, Partnership, Introduction to Corporations] ..... 2

# THE RECOMMENDED SECOND-YEAR PROGRAM 

|  | Semester Hours Fall Spring |
| :---: | :---: |
| Constitutional Law [Including Federal Jurisdiction] | 32 |
| Remedies | 3 |
| Research and Writing II [Required] |  |
| Business Associations II [Including Accounting] | 3 |
| Conveyancing | . 3 |
| Negotiable Instruments | 2 |
| Administrative Law | 3 |
| Credit Transactions | 3 |
| Federal Taxation I | 3 |

Semester Hours Fall Spring

Research and Writing II [Required] ...................... 1 1
Business Associations II [Including Accounting] ....... 3
Negotiable Instruments ........................................ 2
Administrative Law ........................................... . 3
Federal Taxation I ................................................. 3
$15 \quad 15$

## THE THIRD-YEAR COURSES

Students are to select courses aggregating 10 to 15 hours each semester. Every student must select two of the starred courses listed under "B. Specialties." These courses emphasize legal planning and drafting. Enrollment in each of them is limited. Case Studies and Legal Aid Clinic each count as a single starred course, though the former may be selected in both semesters and the latter is a year course.
A. Advanced Courses.
Jurisprudence ..... 2
Conflict of Laws ..... 2
International Law ..... 3
Legal History ..... 2
B. Specialties.
I. Business. (See also "IV. Public Law.") *Banking ..... 2
*Corporate Planning ..... 2
Debtors' Estates ..... 2
Insurance ..... 2
*Corporate Reorganization ..... 2
*Credit and Insolvency-Advanced Course ..... 2
II. Estates, Family, Property.
Family Law ..... 2
Future Interests ..... 3
Trusts ..... 2
Family Law Seminar ..... 2
*Tax and Estate Planning (Also listed under "IV. Public Law.") ..... 2
Wills ..... 3
III. Procedure, Practice and Local Law.
*Case Studies (repeated each semester) ..... 2
Damages ..... 2
Evidence ..... 2
*Legal Aid Clinic ..... 2
Legal Ethics ..... 1
North Carolina Practice ..... 2
North Carolina Statutes and Decisions ..... 2

## IV. Public Law.

Semester Hours
Fall Spring
*Constitutional Law and Federal Courts Seminar ..... 2
Labor Relations [National Labor Relations
Act; collective bargaining, strikes, etc.] ..... 3
Labor Standards [Workmen's Compensation, Fair Labor Standards Act, etc.] ..... 2
*Labor Law Seminar [Negotiations; contract clauses; grievances; arbitration, etc.] ..... 2
Municipal Corporations ........................... 2*Public Regulation of Business Seminar .........3
Federal Taxation II ..... 3
State Taxation ..... 2
*Tax and Estate Planning ..... 2
(Also listed under "II. Estate, Family, Property")

# IX. DESCRIPTION OF COURSES 

## 1. GENERAL COURSES

Conflict of Laws. A study of the special problems which arise when the significant facts of a case are connected with more than one jurisdiction. Recognition and effect of foreign judgments; choice of law; federal courts and conflict of laws; the United States Constitution and conflict of laws. Two hours a week second semester.

Mr. Herbert
Damages. The measurement of damages with special emphasis upon the application of the standards of value and certainty, and upon the relation between the procedural and substantive aspects of damage litigation. Two hours a week second semester.

Mr. McDermott
Family Law. A seminar approach to the cases, statutes, and sociological theories covering the contract to marry, its formation and breach; marriage; annulment ; divorce; separation; property rights; and international jurisdiction. Selected materials. Two hours a week first semester.

Mr. Bradway
Seminar in Family Law. A seminar approach to the efforts of the social sciences, including the law, to deal with the intricate and perplexing problems of the modern family. Readings are assigned in legal and sociological material. Class discussions are based upon some central topic, such as divorce, domestic relations courts, etc. Written reports required in lieu of an examination. Family Law is prerequisite. Two hours a week second semester. Mr. Bradway

Jurisprudence. Discussion of some of the basic problems of classical and contemporary juristic theory, with applications to cases and statutes. Two hours a week first semester.

Mr. Kramer
Legal History. A study of the development of fundamental English and American legal institutions, with emphasis upon historical method and the conditioning factors, social, economic and political. Two hours a week second semester.

Mr. Bolich
North Carolina Statutes and Decisions. A study of selected statutes of North Carolina with discussion of their application, and an analysis of the decisions of the Supreme Court of North Carolina construing them. Two hours a week first semester.

Mr. Bryson
Torts. The bases of liability in damages for personal injuries and injuries to property: bases other than fault; negligence; intentional infliction of harm. Procedure in jury trials; proof of negligence; causation and "proximate cause"; defenses; the damages recoverable. Special rules applicable to occupiers and owners of land, motor vehicle accidents, suppliers of goods and remote contractors. Misrepresentation and fraud; defamation; assault and battery; false imprisonment. Two hours a week first semester, three hours a week second semester.

Mr. Maggs
Trusts. The nature, creation and elements of a trust; transfer of the beneficiary's interest: administration of trusts; termination and modification of trusts ; charitable trusts; liabilities to third persons; and liabilities of third persons. Two hours a week first semester.

Mr. Herbert

## 2. BUSINESS COURSES

Banking. Relations between bank and customer and between banks, bank functions and policies, federal and state regulation of banking, and economic aspects of these. Work of the semester will be devoted primarily to advanced
research projects involving planning, drafting, and writing, rather than to general coverage of the entire syllabus by all students. Two hours a week first semester.

Mr. Pemberton
Business Associations I. Legal principles concerning association in business by agency, partnership, other unincorporated forms and corporations. Creation, form and nature of agency, partnership and corporation, corporate existence (de facto corporations, corporate entity and its limitations), powers, duties, liabilities and compensation of agents, partners, officers and directors, risks in conduct of business by representatives (vicarious liability in tort, authority to contract), imputation of notice and knowledge, scope of enterprise (ultra vires), revocation and termination of authority, ratification, undisclosed business associates, stability of the associational relationship. The purpose of this course is to grasp basic principles of Agency and Partnership and elementary doctrines of corporation law as a foundation for the advanced corporation course (Business Associations II). Two hours a week second semester.

Mr. Latty
Business Associations II. Promoters, subscription to and issue of shares, stock structure and corporate capital, dividends, preferred stock, bonds, capitai increases and reduction, corporate re-acquisition of own stock, elementary principles of corporate accounting, public issue of securities, stock transfers, fundamental corporate changes (recapitalization, sale, merger and consolidation, dissolution), stockholders' suits, and certain principles concerning management and operation not studied in Business Associations I. Three hours a week first semester.

Mr. Latty
Contracts. Problems in the formation of simple contracts (making of promises and judicial standards of interpretation, offer and acceptance); the consideration doctrine; third party beneficiaries; assignments; Statute of Frauds, including legal effects of failure to comply; the performance and breach of contract (conditions, order of performance, anticipatory breach); illegal bargains (types, nature and effect of illegality) ; discharge of contracts. Three hours a week throughout the year.

Mr. Stansbury
Corporate Planning. The student is given hypothetical corporate problems (perhaps taken from the practicing lawyer's desk) on a client's proposed course of action; each problem is designed to require the student to grasp the business situation and goals involved, analyze for pertinent legal principles, plan the transaction to avoid legal and business (including taxation) pitfalls, plan the requisite steps to consummate the desired transaction, draft the appropriate papers, and present his research. Two hours a week first semester.

Mr. Latty
Corporate Reorganization. Reorganization of financially embarrassed corporations in equity proceedings, under state statutes, and under the Bankruptcy Act, Chapters X and XI. Comparison with simplifications of public utility holding company systems under the Holding Company Act of 1935. Recapitalization of solvent corporations. Work of the semester will be devoted primarily to advanced research projects involving planning, drafting, and writing, rather than to coverage of an entire syllabus by all students. Two hours a week second semester. Messrs. Latty and Pemberton

Credit and Insolvency. A more intense study of selected problems falling in the fields of credit transactions and debtors' estates, especially bankruptcy. Creditors' choice of remedies including alternative methods of liquidation or administration of insolvent estates; insolvencies passing through several methods of administration. Work of the semester will be devoted primarily to advanced research projects involving planning, drafting and writing, rather than to general coverage of an entire syllabus by all students. Two hours a week second semester.

Mr. Pemberton

Credit Transactions. Contracts of accommodation, including those on bills and notes, contracts of suretyship and guaranty, letters of credit. Mortgages and security interests in real property, chattel mortgages, pledges, trust receipts, conditional sales and consignment contracts. Three hours a week second semester.

Mr. Pemberton
Debtors' Estates. Rights of creditor and debtor in the administration of insolvent estates in bankruptcy, with comparisons to alternative methods of administration : compositions, assignments for the benefit of creditors, receiverships, and special proceedings for certain classes of debtors. An introduction to proceedings for the rehabilitation of debtors under the Bankruptcy Act, including arrangements and reorganizations. Two hours a week first semester.

Mr. Pemberton
Insurance. The nature of "insurance"; state supervision and control; types of insurance organizations; the legal requirement of insurable interest; interests of others than the named insured; the measure of indemnity and subrogation; the beneficiary's interest in life insurance; the insured event and excepted causes; warranties, representations and concealment; the making of insurance contracts; waiver, estoppel and election. Two hours a week first semester.

Mr. McDermott
Negotiable Instruments. Negotiability of bills and notes; execution of negotiable instruments; obligations of parties; formal requisites of negotiability; transfer and negotiation; requisites of holding in due course; equities and defenses; discharge. Introduction to legal relations between bank and customer. Two hours a week first semester.

Mr. Pemberton
Public Regulation of Business Seminar. See Public Law Courses, page 29, for description. Three hours a week second semester.

Messrs. Livengood and Herbert
and members of the Economics Department Staff

## 3. PROPERTY COURSES

Chattel Transactions. The course covers most of the topics generally treated under the heading of Personal Property, Bailment and Sales; application of the concepts of possession and title in the law of personal property; the bailment relationship; artisan's lien; transfer of chattels by gift, sale and miscellaneous inter vivos transactions. In Sales, the emphasis is on remedies and performance. Special attention is given to the judicial process and technique. Problems of chattel mortgages, pledges and sales financing are considered only incidentally, being reserved for the course in Credit Transactions. Two hours a week throughout the year.

Mr. Latty
Conveyancing. Form and execution of deeds ; description in deeds; rents, licenses, easements and profits; covenants and agreements running with the land at law and in equity; estoppel by deed; recording and title registration. Three hours a week first semester.

Mr. Bolich
Estates in Land. Historical introduction to real property with a detailed consideration of the modern law of possessory estates, including the fee simple, the fee tail, the life estate, the estate for years, and other non-freeholds; concurrent ownership; incidents of possessory ownership relative to water, lateral and subjacent support and air. Three hours a week second semester.

Mr. Bolich
Future Interests. Future interests in real and personal property; reversions; vested and contingent remainders; executory interests; rights of entry; possibilities of reverter, gifts to classes; powers ; perpetuities; construction of wills and deeds as affecting the validity and characteristics of the interests created thereby. Three hours a week first semester.

Mr. Bolich
Tax and Estate Planning. Seminar devoted to problems and techniques of tax and estate planning. Federal Taxation I and II and Future Interests
are prerequisites to enrollment in the seminar. Two hours a week second semester.

Messrs. Bolich and Lowndes
Trusts. See General Courses, page 26, for description. Two hours a week first semester.

Mr. Herbert
Wills and Administration of Estates. Descent and distribution: property rights oi surviving spouse; children and descendants; ancestors and collaterals; effect of claimant's misconduct. Making and revoking wills; testamentary capacity; execution of wills; holographic and special types; integration; testamentary character and intent; revocation; operation of legacies and devises. Probate and administration: grant of administration; probate and contest of wills; assets; contracts, sales and investments by personal representative; clains; settlement of the estate. Three hours a week second semester.

Mr. McDerniots

## 4. PUBLIC LAW COURSES

Administrative Law. The formulation of statutory schemes of administrative regulation: the organization of administrative agencies; the determination, promulgation and enforcement of administrative programs; the respective spheres of administrative and judicial responsibility; judicial control over administrative action. Practice and procedure before administrative agencies: informal conferences and negotiations; formal hearings; constitutional limitations. Three hours a week second semester.

Mr. Kramer
Constitutional Law. Judicial protection against arbitrary governmental action ; the history of the concept of a "higher law"; the constitutional clauses relied upon. The organization and jurisdiction of the federal courts; when and how judicial review can be invoked; limitations on governmental power with respect to economic matters, civil liberties and criminal and civil procedure. The powers of Congress, express and implied; limitations on State governmental powers resulting from the existence and from the exercise of Congressional powers. The constitutional question involved in administrative law. conflict of laws, intergovernmental tax immunities, jurisdiction to tax, and state taxation of interstate commerce are covered more fully in other courses. Three hours a week first semester, two hours a week second semester.

Mr. Maggs
Constitutional Law and Federal Courts Seminar. Advanced study of current Supreme Court cases and of particular fields in constitutional law and history and federal court organization. Two hours a week second semester. Mr. Maggs
Criminal Law. An introductory study of the law of crimes and the administration of criminal justice; analysis of the criminal act and the mental element in crime; consideration of specific offenses as defined by statute and the common law; discussion of typical defenses in relation to specific crimes; elementary criminal procedure; study of the Anglo-American penal system. Three hours a week first semester.

Mr. Livengood
Federal Taxation I. An introduction to the federal income, estate and gift taxes, with particular emphasis on the federal income tax. The course is designed as a final course for students who do not intend to specialize in tax practice and as an introductory course for those who do. Three hours a week second semester.

Mr. Lowndes
Federal Taxation II. Advanced courses in federal taxation and federal tax practice. Problems in income tax practice and procedure, followed by a detailed study of the federal estate and gift taxes and the relation of the federal income, estate and gift taxes. Three hours a week first semester.

Mr. Lowndes
International Law. A survey of public international law of peace, as evidenced especially in decisions of national and of international courts; the
drafting and interpretation of treaties; the nature and handling of international claims; the organization and jurisdiction of international tribunals, with special reference to the International Court of Justice; developments with respect to the codification of the law. Three hours a week second semester. Mr. Wilson

Labor Law Seminar. An intensive study of labor law problems, with emphasis on collective bargaining techniques, drafting union contract clauses, grierance and arbitration procedures, specific applications of the National Labor Relations Act, and some legal and economic aspects of the management-labor relationship. Prerequisite: Labor Relations. Two hours a week second semester.

Mr. Livengool
Labor Relations. A study of the law relating to collective bargaining and concerted labor activities, including the National Labor Relations Act and related legislation, state and federal anti-injunction statutes, the legal aspects of strikes, boycotts and picketing, the law of labor contracts and labor unions. Three hours a week first semester.

Mr. Livengood
Labor Standards. A consideration of the governmental regulation of labor conditions, including the theory and application of the workmen's compensation laws, unemployment insurance and other social security legislation, maximum hours and minimum wage statutes, state industrial safety codes, the Public Contracts Act, Fair Labor Standards Act and related legislation. Labor Relations not a prerequisite. Two hours a week second semester.

Mr. Livengood
Legislation. A general introduction to the field of Public Law, including, among others, the following topics: organization, techniques, procedures, and problems of legislative bodies; formulation of legislative policies; and drafting and interpretation of statutes. Three hours a week first semester. Mr. Kramer

Municipal Corporations. The nature of municipal corporations; their external constitution; their internal constitution; their powers; their liabilities; remedies for and against municipal corporations. Two hours a week first semester.

Mr. McDermott
Public Regulation of Business Seminar. Intensive study of the federal antitrust laws and their common-law background, with emphasis on the economic policies involved. Three hours a week second semester.

Messrs. Livengood and Herbert
and members of the Economics Department Staff
State Taxation. Constitutional limitations on the taxing power; jurisdiction to tax; state excise taxes; and the general property tax. Two hours a week first semester.

Mr. Lowndes
Tax and Estate Planning. See Property Courses, page 28, for description. Two hours a week second semester.

Messrs. Bolich and Lowndes

## 5. PROCEDURE AND PRACTICE COURSES

Case Studies. Detailed analysis of an important civil suit, under supervision of a visiting instructor who was counsel therein. The instructor's files and the record and briefs will be studied. Consideration will be given to how the matter first arose and what business or other problems of the client were involved; how counsel first analyzed the matter and how he ascertained revelant facts; how counsel prepared for and conducted the trial and appellate proceedings. Two hours. Repeated each semester. Instructor to Be Announced

Evidence. Examination of witnesses; admission and exclusion; competency of witnesses; privilege; relevancy; demonstrative evidence; writings; the hearsay rule and exceptions thereto; the burden of producing evidence; presumptions; the burden of persuasion; judicial notice. Two hours a week throughout the year.

Mr. McDermott

Legal Aid Clinic. During the first semester the objectives of the course are: to give the student experience in actual cases; to develop creative skills, techniques and mental habits; to encourage a sense of responsibility to client, court, profession and community. Students under supervision of staff attorneys and in co-operation with members of the Durham bar, court officials and social and other professional agencies in the community, engage, so far as students may, in the handling of actual cases from the first interview with the client until the final disposition of the problem by litigation or otherwise. Trial briefs arc prepared for lawyers in active practice. In the second semester the students continue their work with actual cases and clients. In addition they are given experience in special exercises such as building legal documents, dealing with members of other professional groups, conciliation proceedings. Appellate briefs are written for lawyers in active practice. Opportunity is afforded for special work in fields of particular interest. Two hours a week throughout the year. Mr. Bradway
Legal Ethics. A seminar approach to the ethical problems of the lawyer and the profession. Readings are assigned in legal biography, law reform, the history of the profession, legal aid work. Class discussions cover canons of ethics, statutes, cases, and opinions of grievance committees dealing with the daily problems of the practicing lawyer. A written report is required on some phase of the reform of the administration of justice. One hour a week second semester.

Mr. Bradway
North Carolina Practice. A study of the steps in an action at law from the issuance of process to the entry of final judgment including service of process: appearance and waiver of process; selecting the jury; various motions made during the trial; submission of case to jury; verdict; judgment; noting and perfecting appeal. Also included are such topics as jurisdiction of various courts in North Carolina; venue; trials without a jury; provisional remedies and special proceedings. Two hours a week second semester. Mr. Bryson

Remedies. A study of the principal remedies available for the judicial enforcement of substantive rights, and the procedure by which these remedies are pursued. The first part of the course is devoted chiefly to equitable remedies, but includes the basic principles of restitution (quasi contract and specific restitution) and declaratory judgments, with such incidental reference to damages as is necessary for comparison. The second part (approximately two-thirds of the course) consists of a general study of procedure in civil actions at common law and under the codes and the Federal Rules of Civil Frocedure: jurisdiction, venue, institution of suit, parties, joinder of causes, pleadings and objections thereto, provisional and extraordinary remedies, pretrial hearings, trials, judgments, and appellate review. Three hours a week throughout the year.

Mr. Stansbury

## 6. LEGAL RESEARCH AND WRITING

Research and Writing I. Classroom instruction and individual problems in the use of law books, the preparation of memoranda of law, and moot court hriefing and argument. The first year of a two-year program designed to familiarize the student with the materials and methods of legal research and legal writing. One hour a week throughout the year.

Messrs. Stansbury, Bryson, and Bradway, and the Legal Aid Clinic Staff
Research and Writing II. The second year of the two-year program of research and writing. In addition to more advanced work of the kind involved in the first-year program, the student will be assigned one or more problems in
research or drafting, and will assist in editing memoranda prepared by firstyear students and in judging first-year moot court arguments. Required of all second-year students. One hour a week throughout the year.

Messrs. Stansbury, Bryson, and Bradway, and the Legal Aid Clinic Staff

Upon recommendation of the Committee on Graduate Study, seminars not listed in the bulletin may be created or arrangements made for supervision of special research by individual graduate students in any subject.

All matters presented in this bulletin are subject to change as the University or the School of Law may deem expedient.

## Duke University School of Law

Publishes

## Law and Contemporary Problems

Each issue of this publication is devoted to a symposium exploring not only the legal but also the economic and other social-science aspects of current problems that cross the lawyer's desk.

Symposiums published or to be published in 1950 include

## Air Cargo

Delivered Price Systems

## Private Insurance

Regulation of Insurance
$\$ \mathrm{r} .25$ per issue, postpaid. $\$ 4.00$ per volume of four issues, subscription rate.

## Law and Contemporary Problems

Duke Station
Durham, N. C.

## BULLETIN

 OF
## DUKE UNIVERSITY



## Undergraduate Instruction

(Trinity College, the Woman's College, and the College of Engineering)

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.

For Bulletin of The School of Law, apply to The Dean of the School of Law, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, College Station, Durham, N. C.

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## BULLETIN

## OF

## Duke University



# UNDERGRADUATE INSTRUCTION 

(Trinity College, the Woman's College, and the
College of Engineering)

## 1949-1950

ANNOUNCEMENTS FOR 1950-1951

DURHAM, NORTH CAROLINA

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## CALENDAR OF THE COLLEGES

## 1950

Sept. 14 Thursday, 9:00 A.M.-Dormitories open to freshmen.
Sept. 14 Thursday, 7:30 p.m.-Assembly for all entering freshmen; Freshman Orientation Program begins.
Sept. 18 Monday-Registration and matriculation of new students with advanced standing, Trinity College and the College of Engineering.
Sept. 19 Tuesday-Registration and matriculation of new students with advanced standing, Woman's College.
Sept. 20 Wednesday, 11:00 A.m.-Formal opening of the Colleges.
Sept. 21 Thursday-Instruction begins.
Nor. 11 Saturday-Last day for reporting mid-semester grades.
Nov. 14 Tuesday-Junior examination in English Usage.
Nor. 23 Thursday-Thanksgiving Day: a holiday.
Dec. 11 Monday-Founders Day:
Dec. 20 Wednesday, 5:00 p.m.-Christmas recess begins.
1951
Jan. 4 Thursday, 8:00 A.m.-Instruction is resumed.
Jan. 17 Wednesday-Mid-year examinations begin.
Jan. 27 Saturday-Mid-year examinations end.
Jan. 29 Monday-Registration and matriculation of new students.
Jan. 30 Tuesday-Last day for matriculation for second semester.
Jan. 31 Wednesday-Second semester begins.
March 15 Thursday-Last day for reporting mid-semester grades.
March 24 Saturday, 12:30 p.m.-Spring vacation begins.
April 2 Monday, 8:00 A.M.-Instruction is resumed.
May 21 Monday-Final examinations for second semester begin.
May 31 Thursday-Final examinations end.
June 2 Saturday-Commencement begins; Senior Class Day; meeting of the Board of Trustees.
June 3 Sunday-Commencement Sermon.
June 4 Monday-Commencement Address; Graduating Exercises.

## 1950

| JANUARY |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |
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| FEBRUARY | MAY |  |  |  |  |  |  | AUGUST |  |  |  |  |  | NOVEMBER |  |  |  |  |  |
| S M T W T F S | s | M | T | w | T | F | $s$ | s | $\cdots$ | T | w | $F$ | s | s | M | T | T | F |  |
| $\begin{array}{rrrrrrrrr}4 & 5 & 6 & 7 & 8 & 8 & 9 & 10 \\ 11 & 12 & 13 & 14 & 15 & 16 & 17 \\ 18 & 19 & 20 & 21 & 22 & 23 & 24 \\ 25 & 26 & 27 & 28\end{array}$ | $\begin{array}{rrrrrrr}  & & 1 & 2 & 3 & 4 & 5 \\ 6 & 7 & 8 & 9 & 10 & 11 & 12 \\ 13 & 14 & 15 & 16 & 17 & 18 & 19 \\ 20 & 21 & 22 & 23 & 24 & 25 & 26 \\ 27 & 28 & 29 & 30 & 31 & & \end{array}$ |  |  |  |  |  |  | $\begin{array}{rrrrrrr}  & & & & 1 & 2 & 3 \\ 5 & 6 & 8 & 4 & 4 \\ 12 & 13 & 14 & 15 & 16 & 10 & 11 \\ 19 & 18 \\ 19 & 20 & 21 & 22 & 23 & 24 & 25 \\ 26 & 27 & 28 & 29 & 30 & 31 & \end{array}$ |  |  |  |  |  | $\begin{array}{rrrrrrrr} 4 & 5 & 6 & 7 & 8 & 2 & 3 \\ 11 & 12 & 13 & 14 & 15 & 16 & 17 \\ 18 & 19 & 20 & 21 & 22 & 23 & 24 \\ 25 & 26 & 27 & 28 & 29 & 30 & \end{array}$ |  |  |  |  |  |
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| MARCH | JUNE |  |  |  |  |  |  | SEPTEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| S M T T W T F | s | M | T | w | T | F |  | s | M | T | w T | F |  | s | M | T | T | F | $s$ |
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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## GOVERNING BODIES AND OFFICERS

## EXECUTIVE COMMITTEE OF THE UNIVERSITY

(Consisting of three members from the University Trustees, three from the Endowment Trustees, and the President of the University.)

|  | Year of <br> Election |  |  |
| :---: | :---: | :---: | :---: |
| Willis Smith, Chairman. | . 1946. | Raleigh, | N. C. |
| G. G. Allen.. | . 1923. | New York, | N. Y. |
| A. H. Edens. | 1948. | Durham, | N. C. |
| R. L. Flowers. | . 1923. | Durham, | N. C. |
| A. R. Kearis. | . 1945. | . High Point, | N. C. |
| W. N. Reynolds | 1933. | . Winston-Salem, | N. C. |
| A. H. Sands, Jr.. | 1946. | . New York, | N. Y. |
| J. H. Separk. | . 1929. | . Gastonia, | N. C. |

## UNIVERSITY TRUSTEES

## Term Expires December 31, 1955

| G. All | 923. | New York, | N. Y. |
| :---: | :---: | :---: | :---: |
| James A. Bel | 1920. | Charlotte, | N. C. |
| R. G. Cherry | 1934. | Gastonia, | N. C. |
| R. L. Flowers | 1927. | Durham. | N. C. |
| J. P. Frizzell | 1937. | Snow Hill. | N. C. |
| T. M. Grant. | 1933. | Rocky Moun | N. C. |
| E. L. Jones. | 1945. | Charlotte, | N. C. |
| J. R. Smith |  | Mount Ai |  |

FROM THE ALUMNI

| B. F. Few | 1941......New York. | N. Y. |
| :---: | :---: | :---: |
| J. Welch Harriss. | 1947...... High Point, | N. C. |
| IV. J. Новbs. | 1947...... New York, | N. Y. |
| H. B. Porter. | 1941...... Raleigh, | N. C. |

Term Expires December 31, 1951
E. S. Bowling............................... 1939........New York, N. Y.
C. A. Cannon............................... $1949 \ldots .$. . . Concord, N. C.
H. C. Doss................................1943....... Detroit, Mich.
P. F. Hanes.................................. . 1948....... Winston-Salem, N. C.
G. M. Ivey..................................... 1943....... Charlotte. N.C.
W. W. Peele ................................. 1921....... Richmond, Va.
A. H. Sands, Jr.............................. $1946 . . . .$. New York. N. Y.
B. S. Womble.................................1915.......Winston-Salem, N.C.

FROM THE ALUMNI

| E. Edgerton | 1941...... Raleigh, | N. C. |
| :---: | :---: | :---: |
| Amos R. Kearns | 1945......High Point, | N. C. |
| R. A. Mayer. | 1897 . . . . . . Charlotte, | N. C. |
| IV. A. Stanbury | 1933...... Gastonia, | N. C. |

## Term Expires December 31, 1953




## COMMITTEES OF THE UNIVERSITY TRUSTEES

Buildings and Grounds: J. R. Smith, Cherry, Jordan, Kearns.
Busincss Administration: P. H. Hanes, Elias, Reynolds, Kearns, Hobbs, Sands. Collcges: Mayer, Bell, P. F. Hanes.
Divinity School: Peele, Grant, Porter, Edgerton, Stanbury.
School of Forcstry: Cherry, Edgerton, Few, J. R. Smith.
Graduate School: Webb, Flowers, Doss.
Law School: Womble, Cherry, Frizzelle, Alderman, Cocke, P. F. Hanes.
Library: Doss, Allen, Separk, Bowling, Harriss.
Medical School and Hospital: Elias, Nalle, Horne, Sidbury.
Physical Education and Athlctics: J. R. Smith, Edgerton, Jordan, Harriss, P. F. Hanes.

Enginecring and Rescarch: Ivey, Jones, Webb, Jordan, Doss, Sands, Cocke.
Coopcration with National Council: Bowling, Sands, Few, Kearns, Hobbs, Flowers.
Public Rclations and Publicity: Horne, Ivey, Elias, Harriss.

## OFFICERS OF ADMINISTRATION

## GENERAL ADMINISTRATION

Edens, Arthur Hollis, B.Ph., A.M., M.P.A., Ph.D., Ll.D. President of the Unizersity

West Campus
Flowers, Robert Lee, A.M., LL.D. Chancellor of the University

West Campus
Wannamaker, William Hane, A.B., A.M., Litt.D. Vice-Chancellor of the University

West Campus
Gross, Paul Magnus, B.S., A.M., Ph.D. Vice-President in the Educational Division

Hope Valley
Jordan, Charles Edward, A.B., LL.D. Vice-President in the Division of Public Relations and Secretary of the University
Herring, Herbert James, A.B., A.M., LL.D. Vice-President in the Division of Student Life and Dean of Trinity College

Myrtle Drive
Brower, Alfred Smith, A.B. Business Manager and Comptroller 1550 Hermitage Court
Markham, Charles Blackwell, A.B., A.M. Treasurer of the Unizersity

204 Dillard Street

## BUSINESS ADMINISTRATION

Brower, Alfred Smith, A.B. Business Manager and Comptroller

1550 Hermitage Court
Markham, Charles Blackwell, A.B., A.M. Treasurer of the University

204 Dillard Street
Jordan, Charles Edward, A.B., LL.D. Secretary of the University

813 Vickers Avenue
Henricksen, Gerhard Chester, A.B., A.M., C.P.A. Assistant Business Manager and Assistant Comptroller

216 Forest Wood Drive, Forest Hills

Wiitford, William Edward, A.B. Director of Operation and Maintenance

804 Third Street
Minah, Theomore Warren, B.S., B.S. in H.M. Manager of Dining Hall Operations

2117 Club Boulevard
Howe, Isabelle, B.S.
Manager, the Dining Halls, Woman's College 111 Watts Street
Doxey, John Ellwood, A.B., A.M. Purchasing Agent

1004 Broad Street
Wellons, Jesse David, Jr. Manager of Stores Operations 2703 Augusta Drive

Cooper, Walter Glen, B.A.
Personnel Director
1518 Echo Road
Howard, William Kenneth, B.S.
Maintcnance Enginecr
Bowers, Henry Franklin, A.B. Manager of Operations

106 Pinecrest Road
No. 1 Duke University Apts.,
Markham and Fifth Streets
Haywood, Ernest Lee, A.B.
Chicf Accountant $10+$ Hilton Avenue
Morgan, Henry Speck, A.B.
Chicf Clerk. Treasurer's Office 409 Francis Street
Cousins, James Franklin, A.B., C.P.A. Auditor

416 Carolina Circle
Manning, Kenneth R., A.B.
Superitor. Budgets and Reports
900 Midland Terrace
Fearing, Robert Beveridge
Adaiscr, Student Activities
1803 Forest Road

Laprade, William T., A.B., Ph.D.
Acting Director, Duke University Press 1108 Monmouth Avenue
Brice, Ashbel Green, A.B., A.M.
Editor and Associate Dircctor, Duke Uniaersity Press 814 Sixth Street
Fike, Edward L., A.B.
Director, Bureau of Public Information 801 Third Street
Mann, Glenn Edward, A.B.
Dircctor of Sports Publicity
Cole Mill Road, Rt. 2, Box 52
Mitchell, Fannie Yarbrough Director, Appointments Office 16 Alastair Court

Boy, Carl A. Superintendent of Utilitics 2214 Erwin Road
Gift, John C.
Superintendent of Building Maintenance
811 Fifth Street

## ALUMNI AFFAIRS

Dukes, Charles Aubrey, A.B.
Director 1309 Oakland Arenue
Garrard, Anne, A.B., A.M.
Assistant Director 1023 Gloria Avenue
Tyree, William Allen, A.B.
Ficld Sceretary, Duke University Loyalty Fund 610 Buchanan Boulevard
Smith, Cody Heber, A.B.
Assistant to the Director 2115 W. Club Boulevard
Corbin, Charlotte, A.B.
Assistant to the Dircetor 403 W. Chapel Hill Street
Marshall, Roger, A.B. Alumni Editor

1829 Forest Road

# EDUCATIONAL ADMINISTRATION 

Gross, Paul Magaus, B.S.. A.M., Ph.D.
Vicc-President in the Educational Dizision
Hope Valley
undergraduate colleges
Herring, Herbert James, A.B., A.M., Ll.D. Dcan of Trinity Collcge

Myrtle Drive, West Campus
Brinkley, Roberta Florence. A.B., A.M., Ph.D. Dcan of the Woman's Collcyc East Campus
Hall, William Holland, A.B.. A.M., B.C.E., M.S.C.E. Dean of the College of Engincering

922 Urban Avenue
Manchester, Alan Krebs, A.B., A.M., Ph.D. Dean of Undergraduatc Studics

Myrtle Drive, West Campus
*Smith, Mrs. Ruth Slack, A.B.. A.M.
Dean of Undergraduatc Instruction, Woman's College East Campus
Weatherspoon, Everett Broadus, A.B.
125 Pinecrest Road Director of Admissions, Trinity College and Collcge of Enginecring
Brinkley, William Lambreth, Jr., A.B.
Ficld Secretary, Undergraduate Admissions Duke University
Persons, Mrs. Elizabeth Anderson, A.B., A.MI.
Director of Admissions, Woman's Collcye
612 Swift Avenue
Huckabee, Ellen Harris, A.B., A.M. 1507 W. Pettigrew Street Assistant Dean of Cindergraduatc Instruction, Woman's College
Slay; James Matthew, A.B., M.A.
Assistant Dcan of Trinity' Collcge
1222 Arnette Arenue
Cox. Robert B., A.B., A.M.
Assistant Dean of Undcrgraduate Men 1107 Ninth Street
Archie, William Council, A.B., A.M., Ph.D.
Assistant Dean in Charge of Freshmen, Trinity College
and Collcge of Engineering
2113 Sprunt Strect
Dozier, Јонл M., A.B.
Assistant to the Vice-President in the Dizision of Public Relations; E.recutive Sccretary, University Scholarship Committce

2041 Englewood Avenue

## GRADUATE AND PROFESSIONAL SCHOOLS

Gross, Paul M., B.S., A.M., Ph.D.
Dean of the Graduatc School of Arts and Scicnces Hope Valley
Robert, Joseph Clariee, A.B., A.M., Ph.D. 1102 B Street Associate Dean of the Graduate School of Arts and Sciences
$\dagger$ Bosley, Harold Augestes, A.B., B.D., Ph.D., D.D. Dean of the Divinity' School

1020 Urban Avenue
Russell, Elbert, A.B., A.M., Ph.D., Litt.D.
Dean Emcritus of the Divinity School
Duke University
$\ddagger$ Shepherd, Harold, A.B., J.D., LL.D.
Dean of the School of Law
Cole Mill Road
${ }^{*}$ Resigned, effective June 30, 1950.
$\dagger$ Resigned, effective as of end of academic year 19+9-50.
$\ddagger$ Resigned, September 1, $19+9$.

Lowndes, Charles Lucien Barer, A.B., LL.B., S.J.D. Acting Dean of the School of Law

2016 Club Boulevard
Dayison, Wilburt Cornell, A.B., B.A., B.Sc., A.M., D.Sc., M.D., Ll.D. Dean of the School of Medicine

Hope Valley
Wilson, Florence K., R.N., B.A., M.A.
Dean of the School of Nursing
Faculty Apartments
Korstian, Clarence Ferdinand, B.S.F., M.F., M.A., Ph.D. Dean of the School of Forestry

4 Sylvan Road
Clyde, Paul Hibbert, A.B., A.M., Ph.D.
Director of the Summer Session
Proctor, Arthur Marcus, A.B., A.M., Ph.D. Co-Dircetor of the Summer Session
*Humar, Harold Judson, B.A., M.A., Ph.D. Director of the Duke Marine Laboratory

Cole Mill Road
Myrtle Drive
Marine Station, Beaufort, N. C.

Coleman. Margaret, A.B., A.M.
Recorder, Trinity College
918 Urban Avenue
$\dagger$ Ehlhardt, George B., A.B., B.D.
Registrar, Divinity School
Faculty Apartments
Seabolt, Louise, A.B., A.M. Recorder, Woman's College

Faculty Apartments

## INSTRUCTIONAL STAFF

This alphabetical list includes all members of the various faculties of the Unizersity. The date denotes the first year of service.
Acomb, Frances Dorothy, (1945) A.B., A.M., Ph.D.
Assistant Professor of History
Faculty Apartments
Adams, Donald Keith, (1931) A.B., M.A., Ph.D. Professor of Psychology

Cornwallis Road
Addoms, Ruth Margery, (1930) B.A., M.A., Ph.D. Professor of Botany

1413 N. Duke Street
Adkins, Trogler F., (1938) M.D. Instructor in Obstetrics and Gynccology 2108 Sprunt Street
*Allen, Clark Lee, (1941-43; 1945, 1947) A.B., A.M., Ph.D. Associate Professor of Economics 1813 Hillcrest Drive
Alyea, Edwin Pascal, (1930) S.B., M.D. Professor of Urology

Hope Valley
Anderson, Lewis Edward, (1936) B.S., A.M., Pl.D. Associate Professor of Botany

2020 Sunset Avenue
Anderson, William Banks, (1930) A.B., M.D. Professor of Ophthalmology

502 E. Forest Hills Blvd.
Archie, William Council, (1946) A.B., A.M., Ph.D. Assistant Profcssor of Romance Languages

2113 Sprunt Street
Arena, Jay Morris, (1933), B.S., M.D.
Assistant Professor of Pediatrics 2032 Club Boulevard

* Resigned, September 1, 1949.
$\dagger$ Resigned, effective as of end of academic year 19+9-50.

Arnold, Ralph A., (19ł7) B.A., M.D.
University Apartments Assistant Professor of Otolaryngology and Ophthalmology
Ashbrook, Arthur G., Jr., (1947) B.S., Ph.D. Assistant Professor of Economics

Faculty Apartment Amex
Atwell, Robert J., (1948) A.B., M.D. Instructor in Medicine

University Apartments
Atwood, Theonore W., (1934) A.B., D.M.D. Associate in Dcutistry

Allenton Apartments
Aycock, Thomas Malcolm, (1937) B.S., M.S. Professor of Phy'sical Education

University Apartments
Bailey, Joseph R., (1946) A.B., M.A., Pl.D. No. 11 Duke University Apts., Assistant Professor of Zoology

Markham and Fifth Streets
Baird, Julian B., (1949) B.A.. Major, U. S. Air Force
Assistant Professor of Air Science Apt. 3, 802 Green Street
Baker, Horace Mitchell, Jr., (1948) A.B., M.D. Instructor in Surgery

2315 Wilson Street
Baker, Lenox Dial, (1937) M.D. Professor of Orthopaedic Surgery Hope Valley
Baldwin, Alice Mary, (1923) A.B., A.M., Pl.D., LL.D. Professor Emeritus of History

Swift Avenue
Banham: Katharine May, (1946) B.S., M.A., Ph.D. Associate Professor of Psychology

115 North Dillard Street
Barefoot, Sherwood W., (1946) B.S., M. D. Instructor in Dcrmatology and Syphilology

Duke Hospital
Bason, Betty, (1949) R.N., B.S. Instructor in Medical Nursing

2100 Erwin Road
Baum, Paull Franklin, (1922) A.B., A.M., Pli.D. Professor of English

112 Pinecrest Road
Baylin, George Jay, (1939) A.B., M. D. 2260 Cranford Road Associate Professor of Radiology and Associate in Anatomy
Beach, Waldo, (1946) A.B.. B.D.. Ph.D. Associate Professor of Christian Ethics 100 Vineyard Street
Beal, James Allen, (1939) B.S., M.S., Ph.D. Professor of Forest Entomology

2232 Cranford Road
Beard, Dorothy Waters, Mrs., (1938) R.N. Research Associate in Surgery

Hillsboro, N. C.
Beard, Joseph W., (1937) B.S., M.D. Professor of Surgery in Charge of Experimental Surgery; Associatc Professor of Virology Hillsboro, N. C.

Bennett, Robert L.: (1946) M.D. Lecturer in Physical Medicine Duke Hospital
Bernheim, Frederick, (1930) A.B., Ph.D. Professor of Pharmacology

Woodridge Drive, Rockwood
Bernheim, Mary Lilias Christian, Mrs., (1930) B.A., M.A., Ph.D. Assistant Professor of Biochemistry Woodridge Drive, Rockwood
Berry, Edward Willard, (1936) A.B., Ph.D. Associate Professor of Geology

1003 N. Gregson Street
*Bevington, Helen Smith, Mrs., (1943) Ph.B., M.A.
Assistant Professor of English
Guess Road
$\dagger$ Bevington, Merle Mowbray, (1942) A.B., M.A., Ph.D. Associate Professor of English

Gucss Road
Bigelow, Lucius Aurelius, (1929) S.B., Ph.D. Professor of Chemistry

131 Pinecrest Road
$\ddagger$ Bird, Harold Crusius, (1926) Ph.B., C.E. Professor of Cizil Enginecring

1209 Virginia Avenue
$\dagger$ Black. Martin Lee, Jr., (1930) A.B., M.B.A., C.P.A. Professor of Accounting

135 Pineerest Road
Blackburn, William Maxwell, (1926) A.B., B.A., M.A., Pl.D. Associate Professor of English

901 Fifth Strcet
**Black-Schaffer, Bernard, (1945) B.Sc., M.D. Associate Professor of Pathology

Piedmont Apartments
Blake, Robert L., (1949) Instructor in Medical Art and Illustration 609 Ruby Strect
Blomquist, Hugo Leander, (1920) B.S., Pl.D. Professor of Botany

922 Demerius Strect
Boardman, Wanda Slaybaugh, (1947) R.N., A.B., B.S. Instructor in Medical Nursiny

819 Third Strect
末Bolich, Willian Bryan, (1927) A.B., B.A. (Juris.), M.A., B.C.L. Professor of Law

Hope Valley
Bolmeier, Edward C., (1948) A.B., M.A., Pl.D. Associate Professor of Education

Faculty Apartments
Bond, George F., (1949) M.D. Instructor in General Practice of Medicine Duke Hospital
Bone, Allan Hadley, (1944) B.A., M.M.
Assistant Professor of Music
$231+$ Club Boulevard
Bone, Frank C., (1948) A.B., M.D. Instructor in Medicine 1408 Duke University Road
Bookhout, Cazlyn Green, (1935) A.B., A.M., Plı.D. Associate Professor of Zoology 1307 Alabama Avenue
Bookhout, Elizabeth Circle, Mrs.. (1932-43; 1945) A.B., M.S. Associate Professor of Physical Education 1307 Alabama Avenue
$\dagger$ †bosley, Harold Augustus, (1947) A.B., B.D., Ph.D., D.D. Professor of Philosophy of Religion and Dean of Dicinity School 1020 Urban Avenue
\#†Boutwell. Frederick Kent, (1946) B.S. in M.E. I'isitiny Instructor in Mechanical Engincering 618 Ruby Street
Bowman, Francis E., (1945) A.B., M.A., Ph.D. Associate Professor of English

1503 Alabama Avenue
Brackett, Ralph Anders, (1949) B.S., Lieutenant, U. S. Navy Assistant Professor of Nazal Scicnce 105 Fifth Avenue
Bradley, David Gilbert, (1949) A.B., B.D., M.A., Ph.D. Visitiny Assistant Profcssor of Religion

405 Carver Street

* Absent on leave, 1949-50.
$\div$ Absent on sabbatical leave, 1949-50.
$\ddagger$ Absent on sabbatical leave, second semester, 1949-50.
** Absent on leave, 1950-51.
it Resigned, effective as of end of academic year 1949-50.
$\ddagger \ddagger$ Resigned. September 1, 1949.

Bradsher, Charles Kilgo, (1939) A.B., M.A., Ph.D. Associate Professor of Chemistry

2318 Englewood Avenue
Bradway, Join Saeger, (1931) A.B., A.M., LL.B. Professor of Laze

2621 Stuart Drive
Brandis, Royall N., (1949) B.A., M.A. Instructor in Economics

Duke University
Brewer, J. Street, (1949) M.D.
Instructor in Gencral Practice of Medicine Duke Hospital
Brewer, Robert Palmer. (1949) A.B.. Lieutenant, U. S. Navy Assistant Professor of Naval Science 3030 University Drive
Brinkley, Roberta Florence, (1947) A.B., A.M., Ph.D. Professor of English and Dean of the IV'oman's Colleye

East Campus

Broome, Robert A., Jr., (1948) M.D. Instructor in Medicinc University Apartments
*Brouse, Albert J., (1947) A.B., A.M. Instructor in Enylish

9231/2 Dacian Avenue
Brown, Chandler Wilcox, (1947) B.S. in C.E. Instructor in Cizil Engincering

1423 Woodland Drive
Brown. Frances. (1931) A.B., Ph.D., Associate Professor of Chemistry, 205 Jones Street
Brown, Ivan W., Jr., (1940) A.B., B.S., M.D. Associatc in Surgery

2314 Woodrow Street
Brown, W. G., (1947) A.B. Instructor in Prezentive Medicine and Public Health Duke Hospital
$\ddagger$ Brownell, William Arthur, (1930) A.B., A.M.. Ph.D., LL.D. Professor of Educational Psychology

Hope Valley

Brownlee, William H., (1948) A.B., Th.B., Th.M., Ph.D. Instructor in Biblical Literature
$101+$ Edith Street
Bryant, Jeanette E.. (1949) R.N., B.S. Instructor in Surgical Nursing 220+ Erwin Road
Bryson, Edwin Constant, (1931) LL.B.
Associate Professor of Laze, and Instructor in Hospital Administration
Bryson, Thadjeus Dillard, (1928) LL.D. Professor Emeritus of Laze

1023 Sycamore Street
Duke University
Bugg, Everett I., Jr., (1947) B.S., MI.D. Instructor in Orthopacdics 2806 Legion Avenue
Callafay, Jasper Lamar, (1937) B.S., M.D. Professor of Dermatology and Syphilology

828 Anderson Street
Cameron, Edmund McCullough, (1926) A.B. Dircctor of Physical Education and Athletics, and Assistant Coach of Football

Hope Valley
Canine, William L... Jr., (1947) A.B., M.A. No. 7 Duke University Apts., Instructor in English

Markham and Fifth Streets
Cannon, James, III, (1919) A.B.. A.M.. Th.B., Th.M., D.D. Izey Professor of History of Religion and Missions 803 Second Street

[^10]Carlitz, Leonard, (1932) A.B., A.M., Ph.D. Professor of Mathematics

2303 Cranford Road
Carpenter, Dayid Williams, (1929) A.B., A.MI., Ph.D.
Professor of Physics
137 Pinecrest Road
Carr, John Winder, Jr., (1926) A.B., A.M., Ph.D. Professor of Education

926 Monmouth Avenue
Carroll, Eber Malcolm, (1923) A.B., A.M., Ph.D. Professor of History

University Apartments
Carroll, R. Charman, (1943) R.N., A.B., M.D. Associate in Newropsychiatry
Carson, Kyle, (1949) R.N., A.B. Instructor in Medical Nursing Baker House
Carter, Bayard, (1931) A.B., B.A., M.A., M.D. Professor of Obstetrics and Gynecology

2111 Myrtle Drive
Carter, Ruth, (1949) R.N., B.S. Instructor in Surgical Nursing 2100 Erwin Road
Cassel, Chester, (1949) B.S., M.D. Instructor in Medicine

1203 Ruffin Street
Castellano, Helen, Mrs., (1947) A.B., A.M. Instructor in Romance Languages

805 Third Street
Castellano, Juan R., (1947) B.S., Ph.D. Associate Professor of Romance Languages

805 Third Street
Cheek, Roma Sawyer, Mrs., (1947) A.B., M.A., Ph.D. Instructor in Political Science

908 Buchanan Boulevard
Childs, Benjamin Guy, (1924) B.A., M.A. Professor of Education

1019 West Markham Avenue
Christ, Robert W., (1948) A.B., M.S. Assistant Librarian

1403 Watts Strect
Church, Margaret, (1946) A.B., A.MI., Ph.D. Instructor in English

Cole Mill Road
*Clamp, Jesse Carl, (1948) A.B., M.A. Instructor in Economics

306 Northwood Circle
Clark, Elon Henry, (1934) Associate Professor of Medical Art and Illustration 1300 Oakland Avenue
$\dagger$ Clark, Kenneth Willis. (1931) A.B., B.D., Ph.D. Professor of New Testament

1308 Markham Avenue
Clark, Lelia R., (1949) R.N., B.S., M.A. Assistant Professor of Nursing Education
Cleland, James T., (1945) M.A., B.D., Th.M. Professor of Homiletics
Clyde, Paul Hibbert, (1937) A.B., A.M., Ph.D. Professor of History
Cobb, Clarence H.. (1934) Ph.G. Instructor in Hospital Administration

402 Morehead Avenue
Cohen, Louis David, (1946) B.A., M.A.. Ph.D. Assistant Professor of Psychology, and Assistant Professor of Neuropsychiatry

913 Monmouth Avenue

[^11]*Colle, Theodore Stanley, (1935) B.S.F., M.F.. Ph.D. Professor of Forest Soils

Hillsboro Road
Cole, Robert Taylor, (1935) A.B., A.M1., Ph.D.
Professor of Political Science
7 Sylvan Road
Collins, Joha P., (1948) A.B., M.D. Instructor in Surgery

812 Green Street
Colton, Joel G., (1947) A.B., M.S., M.A. Instructor in History

University Apartments
Conant, Norman Francis. (1935) B.S., A.M., Ph.D. Old Cornwallis Road Professor of Mycology and Associate Professor of Bacteriology
Convery, Robert Howe, (1949) B.A., M.A., Pl.D. Professor of Political Science

2017 Sprunt Street
Cooper, Albert Derwin. (1934) A.B., M.D. Instructor in Medicine

1006 Dacian Avenue
Cowper, Frederick Augustus Grant, (1918) A.B., A.M., Ph.D. Professor of Romance Languages 1017 Dacian Avenue
Cox, Albert Wesley, (1948) B.S., Lieutenant, U. S. Navy Assistant Professor of Naval Science

2302 Erwin Road
Crawley, Hattie Mildred, (1946) R.N., B.S. Instructor in Nursing Arts

Baker House
Creadick, Robert Nowell, (1946) A.B., M.D. Assistant Professor of Obstetrics and Gynecology 2226 Elba Street
Crlm, Mason, (1930) A.B., Ph.D. Associate Professor of Biblical Literature 912 Anderson Street
†Currie, Brainerd, (1946) A.B., LL.B., LL.M. Professor of Law

Hope Valley Road
Curtiss, John Shelton, (1945) A.B., A.M.., Ph.D. Associate Professor of History

718 Vickers Avenue
Cushman, Robert E., (1945) A.B., B.D., Pl.D. Professor of Systematic Theology

2122 Englewood Avenue
Cuttino, John Tindall, (19+6) B.S., M.D. Associate in Pathology 1616 Delaware Avenue
Cuyler, W. Kenneth, (1938) B.A., M.A.. Ph.D. Research Instructor in Obstetrics and Gynecologic Laboratory Technics

Garrett Road
Daf, Bingham, (1943) A.B., M.A., Ph.D. 1010 Monmouth Avenue Lecturer in Psychiatry; Professor of Psychology (Part-time)
Davis, Gifford, (1930) A.B., A.M., Ph.D. Associate Professor of Romance Languages 2248 Cranford Road
Davison, Atala T. S., (19+2) A.B., M.D. Instructor in Pediatrics

Hope Valley
Davison, Wilbert Cornell. (1927) A.B., B.A., B.Sc., M.A., M.D., D.Sc., LL.D. Professor of Pediatrics and Dean of the School of Medicine Hope Valley
Defs. Johic Essary, (1939) B.S., M.D.
Associate Professor of Urology
413 Carolina Circle
Dees, Susan Coons, Mrs., (1939) A.B., M.S., M.D. Assistant Professor of Pediatrics

413 Carolina Circle

* Absent on sabbatical leave, second semester, 1949-50.
$\div$ Resigned, September 1, 1949.

Demorest, Jean-Jacques, (1948) B.A., M.A., Pl.D. Instructor in Romance Languages
Deturk, William, (1949) A.B., A.M., M.D., Ph.D. Assistant Professor of Pharmacology
*Dewald, Jacob Frederick, (1948) B.S., Ph.D. Instructor in Chemistry
de Viver, Frank Traver, (1935) A.B., A.M., Plı.D. Professor of Economics

8 Sylvan Road
Dick, Macdonald, (1932) B.A., M.A., MI.D.
Assistant Professor of Physiology' and Pharmacology and Associate in Medicine

## Brookside Apts., <br> 821 Demerius Street

1211 Ruffin Street
509 S. Duke Street

Hope Valley Road
Dicks, Russell L., (1948) A.B., B.D., D.D. Associate P'rofessor of Pastoral Care

2308 Prince Street
Dort, Wakefield, (1948) B.S., M.S.
Instructor in Gcology
Dow, Marie, Mme., (1934) L. ès L., M.A. Instructor in Romance Languages
†Dow, Neal, (1934) A.B., M.A., Ph.D. Assistant Professor of Romance Languagcs

Duke University
2252 Cranford Road

Dressel, Francis George, (1929) B.S., M.S., Ph.D. Associate Professor of Mathematics

2252 Cranford Road
309 Francis Street
Duke, Kenneth Lindsay, (1940) A.B., Ph.D. Assistant Professor of Anatomy
Eame, George Sharp, (1930) M.A., M.B., Ph.D. Professor of Physiology and Pharmacology

701 Club Boulevard
Hope Valley
Eagle, Watt Weems, (1930) A.B., M.D.
Professor of Otolaryngology'
804 Anderson Street
Earle, Ralph, Jr., (1948) B.S., Captain, U. S. Navy Professor of Nazal Science

2101 Myrtle Drive
Easley, Eleanor Beamer, Mrs., (1934) B.A., M.A., M.D. Associate in Obstetrics and Gynecology

Guess Road
Easley, Howard, (1930) A.B., M.A., Ph.D. Associate Professor of Education Guess Road
Eastman, Harry Claude MacColl, (1949) B.A., M.A. Instructor in Economics

2009 Club Boulevard
Edwards, Charles William, (1898) A.B., A.M., M.S. Professor Emeritus of Physics 406 Buchanan Boulevard
Egerton, Frank Nicholas, (1945) A.B., A.M., E.E. Assistant Professor of Electrical Enginecring 411 N. Gregson Street
Elliott, William Vhitfield, (1925) B.A., M.A., Ph.D. Professor of Mathematics

Ellis, Leon H., (1947) A.B., LL.B., Ph.D. Leeturer in Political Scienee

2428 Perkins Road

* Resigned, June 1, 1949.
$\dagger$ Absent on sabbatical leave, first semester, 1950-51.

Engel, Frank Libnan. (1947) A.B., M.D.
Assistant Professor of Medicine and Instructor in Physiology

2111 Pershing Street
Epperson, Jesse Harrison, (1930) B.S. 1601 Hermitage Court Instructor in Preacntive Midicine and Pablic Health
Estill, Mary Ellen, (1949) B.A., Ph.D. Instructor in Mathematics Duke University
Everett, John Wendell, (1932) A.B., Ph.D. Associate Professor of Anatomy

2605 University Drive
Felts. James E., (1949) Instructor in Hospital Administration Charlotte, N. C.
Ferguson, Arthlr Bowles. (1939) A.B., Ph.D. Assistant Professor of History

209 Woodridge Drive
Ferguson, George Burton. (1937) M.Sc. (Med.), M.D. Associate in Bronchoscopy Dover Road, Hope Valley
Fetters, Jamps Carl., (1949) B.A., Captain, U. S. Marine Corps Assistant Professor of Nazal Science

2403 University Drive
Fisher, Marshall L., (1949) B.S., M.D. Associatc in Ncuropsychiatry

Roanoke, Va.
Fitzgerald, William Stone, (1935) A.B., A.M. Instructor Emeritus of English

603 Watts Street
Fleming, Julia, (19+9) R.N., B.S. Instructor in Psychiatric Nursing

Duke Huspital
Fleming, William J., (1949) A.B., M.D. Instructor in Medicine

802 Green Street
Flower, Arthur H., Jr., (1948) A.B., M.D. Associate in Dcrmatology and Syphilology

2617 Hillsboro Road
Foerster, Norman, (1948) A.B., A.M., Litt.D. l'isiting Professor in English (Part-time)

Chapel Hill, N. C.
Forbus. Wiley Dayis, (1930) A.B., M.D. Profcssor of Pathology Hope Valley
Fox, Herbert Junius, (1940) M.D. Associate in Medicine Indian Trail

France, Dorothy R., (1949) A.B., M.S. Instructor in Physical Education

101 Faculty Apartments
*French, Dalid P., (1947) A.B., A.M. Instructor in English

Faculty Apartments
Felton, Lewis McLeod, Jr., (1949) B.S., A.M., Ph.D. Instructor in Mathematics

Duke University
Gardner, Clarence Ellsworth, Jr., (1930) A.B., M.D. Professor of Surgery

Hope Valley
Garrett: James Richard, (1947) B.S., A.M., Ph.D. Visiting Instructor in Mathematics
Gault, Luclle D., Mrs., (1947) B.A., M.A. Instructor in Romance Languages

305 Northwood Circle
Greensboro Road, Chapel Hill, N. C.

[^12]Gergen, John Jay, (1936) A.B., A.M., Ph.D. Professor of Mathematics

2803 Nation Avenue
Gilbert, Allan, (1920) B.A., A.M., Ph.D.
Professor of English 516 Carolina Circle
Gilbert, Katharine Everett, Mrs., (1930) A.B., A.M., Ph.D., Litt.D. Professor of Philosophy 516 Carolina Circle
Givan, Walker F., (1947) B.A., M.A. Instructor in History 1021 Minerva Avenue
Glenn, John C., (1949) M.D. Assistant Professor of Radiology 2204 Pershing Street
Goffard, Sidney James, (1947) A.B., M.A., Ph.D. Instructor in Psychology

1003 Lamond Avenue
Gohdes, Clarence, (1930) A.B., A.M., Pl.D. Professor of American Litcrature
$261+$ Stuart Drive
Goldsmith, Jewett, (1949) M.D. Associate in Newropsychiatry

Duke Hospital
Gordy, Walter, (1946) A.B., M.A., Ph.D. Professor of Physics

233 Forest Wood Drive
Graham, William Alexander, (1939) A.B., M.D. Instructor in Obstetrics and Gymecoloyy

2247 Cranford Road
*Grasty, George Mason, (1946) A.B., M.A. Instructor in German

Duke University
*Grattan, Martha Zant, Mrs., (1947) A.B. Instructor in Speech

2013 James Street
Gray, Irving Emery, (1930) B.S., M.S., Ph.D. Professor of Zoology

124 Pinecrest Road
Greenhill, Maurice H., (1940) A.B., M.D. Associate Professor of Neuropsychiatry and .Issociate Professor of Public Hcalth and Preventive Mcdicine Hope Valley
Greuling. Eugene, (1948) B.S.. Ph.D. Assistant Professor of Physics 3409 Chapel Hill Road

Grimson, Keith S., (1942) B.A., B.S., M.D.
Professor of Surgery
Hope Valley
Gross, Paul Magnus, (1919) B.S., A.M.., Ph.D.
William Howell Pegram Profcssor of Chemistry and Dcan of Graduate School of Arts and Sciences

Hope Valley
Grout, Julia Rebecca, (1924) A.B., M.S.
Professor of Physical Education, Woman's College 804 Fourth Street
Gustafson, Robert Bergstrom, (1949) B.S., Lieutenant, U. S. Navy
Assistant Professor of Nazal Science 628 W. Club Boulevard
Haines, Howard N., (1943) B.S. Assistant Professor of General Enginecring

2307 Club Boulevard
*Haines, William E., (1948) A.B., LL.B. Instructor in Economics

101 E. Markham Avenue
Hall, Frank Gregory, (1926) A.B., A.M., Ph.D.
Professor of Physiology
122 Pinecrest Road

* Resigned, September 1, 1949.
*Hall, Louise, (1931) B.A., S.B. in Architecture, Brevet d'Art de la Sorbonne Associate Professor of Architecture

210 Faculty Apartments
Hall, William Holland, (1915) A.B., A.M.., B.C.E., M.S.C.E.
Professor of Engincering and Dean of the College of Enginecring
922 Urban Avenue
Hallowell. John Hamilton, (1942) A.B., A.M., Ph.D.
Associate Professor of Political Science
2709 Augusta Drive
Hamblen, Edwin Crowell, (1931) B.S., M.D.
Associate Professor of Obstetrics and Gynecology, and Professor of Endocrinology

810 Forest Hills Boulevard
$\dagger$ Hamilon, Johs W.. (1948) A.B., A.M. Instructor in Romance Languages

2252 Cranford Road
Hamilton, William Baskerville, Jr., (1936) A.B., A.M., Ph.D. Associate Professor of History 2256 Cranford Road
Handler, Philip, (1939) B.S., M.S., Ph.D. Associate Professor of Biochemistry and Nutrition 2307 Sprunt Street
Hanna, Frank A., (1948) B.A., Ph.M., Ph.D. Associate Professor of Economics 2239 Cranford Road
Hansen-Prüss, Oscar Carl Edvard, (1930) A.B., M.D.
Professor of Medicine in Charge of Clinical Microscopy
3 Surry Road, Hope Valley
Hanson, Earl, (1946) A.B., A.M., Ph.D. Powe Apartments, Assistant Professor of Poiitical Science Watts Street
Hardy, William Marion, (1946) B.S. in M.E. Instructor in Mechanical Engincering

Chapel Hill, N. C.
$\ddagger$ Hargitt, George Thomas, (1930) Ph.B., A.M., Ph.D., Sc.D. Professor of Zoology

811 Watts Street
Harrar, Eliwood Scott, (1936) B.S., M.S., Plı.D. Professor of Hood Technology

2228 Cranford Road
Harris, George P., (1949) A.B. Instructor in Hospital Administration Charlotte, N. C.
Harris, Jerome Silvan, (1936) A.B., M.D: Associate Professor of Pediatrics and Biochemistry 1007 Rosehill Avenue
Hart, Deryl, (1930) A.B., A.M., M.D. Professor of Surgery Duke University Road and Highway 751
Hart, Hornell Norris, (1938) A.B., M.A., Ph.D. Professor of Sociology

Cranford Road
Harwell, George Corbin, (1935; 1947) A.B., A.M., Ph.D.
Assistant Professor of English
Erwin Apartments
Hatley, Charles Cleveland, (1917) A.B., A.M., Ph.D.
Professor of Physics
708 Buchanan Boulevard
Hatley, Mariin Thomas, Jr.., (1946) B.S. in E.E. Instructor in Electrical Enginecring
Hauser, Cilarles Roy, (1929) B.S., M.S., Ph.D. Professor of Chemistry

1020 Rosehill Avenue

* Absent on sabbatical leave, 1950-51.
$\dagger$ Resigned, September 1, 1949.
$\ddagger$ Absent on sabbatical leave, first semester, 1949-50.

Helmick, Caroline E., (1949) B.A., M.D.
Associate in Medicinc and Associate in Preventive Medicine and Public Health

Duke University
Hendrix, James Paisley; (1938) B.S., M.A., M.D.
Assistant Professor of Medicine and Therapentics
144 Pinecrest Road
Herbert, Bueford Gilbert, (1949) LL.B., LL.M. Acting Assistant Professor of Law

Guess Road
*Hester, Willlam, (1947) A.B., A.M., Ph.D. Instructor in Psychology

Duke University
Hetherington, Duncan Charteris, (1930) A.B., M.A., Ph.D., M.D.
Professor of Anatomy
University Apartments
Hiatt, Joseph S., (1949) A.B., M.D. Instructor in Medicine

McCain, N. C.
Hickam, John Bamber, (1947) A.B., M.D. Assistant Professor of Medicine

University Apartments
Hickman, Franklin Simpson, (1927) A.B., S.T.B., A.M., Ph.D. Professor of Preaching and the Psychology of Rcligion

921 Markham Avenue
Hickson, Arthur Owen, (1929) A.B., A.M., Ph.D. Assistant Professor of Mathematics

2712 Legion Avenue
Hill, Douglas, (1931) A.B., M.A., Ph.D. Associate Professor of Chemistry

Dixon Road
Нitch, Josepif M., (1946) A.B., M.S., M.D. Associatc in Dermatology and Syphilology

Duke Hospital
Hobbs, Marcus Edwin, (1935) A.B., A.M., Ph.D. Associate Professor of Chemistry

115 Pinecrest Road
Hofen, Joseph Edward, (1949) A.B., A.M. Instructor in German

Emilie Apts., Bragtown
Hoiman, Leslie Benjamin, (1946) A.B., M.D. Professor of Neuropsychiatry

616 Ruby Street
Holland, Bernard C.. (1948) B.S., M.D. Instructor in Medicine

711 Anderson Street
Holland, Ray Walter, (1947) B.S. in M.E. Instructor in Mechanical Enginecring

600 Colgate Strect
Holley, Irving Brinton, Jr., (1947) B.A., M.A., Ph.D. Instructor in History

No. 6 Duke University Apts., Markham and Fifth Streets
Holton, Frances, (1947) B.S., M.A. Instructor in Physical Education

407 Erwin Apartments
$\dagger$ Hoover, Calvin Brice, (1925) A.B.. Ph.D.. Litt.D. Professor of Economics 1702 Duke University Road
Horack. Hego Claude, (1930) Ph.B., LL.B., LL.D. Professor Emcritus of Laze

Duke University
Horn, Edward C., (1946) B.S., A.M., Ph.D. Assistant Profcssor of Zoology

2509 Cascadilla Street
$\dagger$ Hubbell, Jay Broadues, (1927) A.B., A.M., Ph.D. Professor of American Litcrature

121 Pinecrest Road

* Resigned, March 1, 1949.
$\dagger$ Absent on sabbatical leave, second semester, 19+9-50.

Humphrey, Don Dolgan, (19+5) A.B., Plo.D. Professor of Economics

2802 Legion Avemue
Hunter, Wanda Sanborn, Mrs., (1947) A.B., M.S., Ph.D. Associate Profcssor of Zoology 202 Faculty Apartments
Hunting, Robert S., (1949) B.A., M.A. Instructor in English

Route 2. St. Mary's Road
Ingles, Thelma, (1950) A.B., R.N., M.A. Assistant Professor of Nursing Education Duke University
Irving, William Hestry, (1936) B.A., B.A. (Oxon.), M.A., Ph.D.
Profcssor of English 2707 Legion Avenue
Irwin, Charles Editi, (1946) M.D. Lecturcr in Orthopaedic Surgcry

Duke Hospital
Jacobs, Julian E., (1947) M.D. Lecturer in Orthopaedics

Duke Hospital
*Jarnagin, Milton Preston, Jr., (1948) A.B., A.M. lisiting Instructor in Mathematics

Duke University
Jenkins, Mariaña, (1948) A.B.. A.M., Ph.D. risiting Assistant Profcssor of Art R. D. No. 2, Guess Road
†Jexsen, Howard Eikenberry, (1931) A.B.. A.M., B.D., Ph.D. Professor of Sociology 143 Pinecrest Road
Joerg, Frederick Charles, (1947) B.S., M.B.A. Assistant Professor of Economics Mordecai House, East Campus
Johison, Amos N., (1949) M.D. Instructor in General Practice of Medicine Duke University
Johnson, Mychyle W., (1937) A.B., Ph.D. Assistant Professor of Zoology 106 Turrentine Road
$\ddagger$ Jones, Barney, (1948) A.B., B.D. Instructor in Religion

820 Demerius Street
Jones, Carl C., Jr., (1950) B.S., M.D. Instructor in Medicine Duke Hospital
*Jones, Henry Hunter, (1943) A.B.. C.E. Tisiting Assistant Professor of Enginecring 129 Pinecrest Road

Jordan, Archibald Currie, (1925) A.B., A.M.
Assistant Professor of English
Jordan, Brady Rimbey; (1927) Litt.B., Ph.D. Professor of Romance Languages

117 Pinecrest Road
Kaiser, Heles Loutse, (19+3) R.P.T.
Associate in Physical Thcrapy, in charge of Dizision of Physical Thcrapy'

S0t Fourth Street
Kempner, Walter. (1934) M.D. Associate Professor of Medicine
Kennedy, Philip Edward, (1947) A.B., A.M. Instructor in English

1505 Virginia Avenue

611 Watts Street
Kexyox, Vax Leslie, Jr., (1945) B.S.
Assistant Professor of Mechanical Enginecring Route 3, Hillsboro, N. C.

* Resigned, September 1, 1949.
$\dagger$ Absent on sabbatical leave, first semester, 1949-50.
$\ddagger$ Absent on leave, 1950-51.

Kernodle, G. Wallace, (1949) A.B., M.D. Instructor in Pediatrics

# Duke Hospital 

Klenz, William, (1947) A.B., M.A. Assistant Professor of Music 1216 B Street
Kliger, Samuel, (1946) A.B., M.A., Ph.D. Assistant Professor of English

Faculty Apartment Annex
Koch, Sigmund, (1942-1947; 1948) A.B., A.M., Ph.D. Associate Professor of Psychology

2921 Horton Road
*Korstian, Clarence Ferdinand, (1930) B.S.F., M.F., M.A., Ph.D. Professor of Silviculture and Dean of the Sehool of Foresty 4 Sylvan Road
Kramer, Paul Jackson, (1931) A.B., M.Sc., Pli.D. Professor of Botany

2251 Cranford Road
Kramer, Robert, (1947) A.B., LL.B. Professor of Laze

Guess Road
Kraybill, Edward K., (1939) B.S. in E.E., M.S. in E.E.
Assistant Professor of Electrical Enginecring
900 Dacian Avenue
Krummel, Charles Albert, (1922) Ph.B., Ph.M., Ph.D.
Professor Emeritus of German 2118 Englewood Avenue
Kuder, G. Frederick, (1948) A.B., M.A., Ph.D. Professor of Psychology

Perkins Road
Kunkle, E. Charles, (1948) B.A., M.D. Assistant Professor of Medicine 1302 Oakland Avenue
Labarre, Weston, (1946) A.B., Ph.D. Associate Professor of Anthropology

1311 Alabama Avenue
Landon, Charles Edward, (1926) A.B., A.M., Ph.D. Associate Professor of Economics

1514 Edgevale Road
Lanning, John Tate, (1927) A.B., A.M., Ph.D. Professor of History

Hope Valley
Laprade, William Thonas, (1909) A.B., Ph.D. Professor of History

1108 Monmouth Avenue
$\dagger$ LaRoe, Rachel, (1946) A.B., M.A. Instructor in Physics

1204 Markham Avenue
Larsh, John E., Jr., (1943) A.B., M.S., Sc.D. Associate in Parasitology
Latty, Elvin Remus, (1937) B.S., J.D., J.Sc.D. Professor of Lazu
Lavin, Natalie L., (1949) R.N. Instructor in Pediatric Nursing 1010 First Street
*Leary, Lewis, (1941) B.S.. A.M., Plr.D. Associate Professor of American Literature 2106 Woodrow Street
Lee, Paul R., (1948) B.A., M.A. Instructor in English

119 Epworth Inn
$\ddagger$ Lemert, Ben Franklin, (1930) B.Sc. in Bus. Admin., M.A., Ph.D. Associate Professor of Eeonomic Gcograplyy 123 Pinecrest Road
†Leonard, Henry Siggins, (1937) A.B., A.M., Ph.D. Associate Professor of Philosophy

107 Pinecrest Road

[^13]Lewis, Harold W., (1946) B.S., M.A.
Assistant Professor of Physics
Lewis, Modena, (1933) B.S., M.A.
1005 Carolina Avenue Associatc Professor of Physical Education and Dance
Lewis, Ralph Elton, (1941) B.S. in M.E., M.S. in M.E. Assistant Professor of Gencral Enginecring 1308 Markham Avenue
Livengood, Charles H., Jr., (1946) A.B., LL.B. Associate Professor of Law

Hope Valley
Llerena, Mario, (1948) B.A., Doctor en Filosofía y Letras (Havana) Instructor in Romance Languages

Duke University Apts., Markham and Fifth Streets
*Löwenbach, Hans, (1940) M.D. Associate Professor of Ncuropsychiatry and Physiology Apex Road
London, Arthur Hill, Jr., (1932) B.S., M.D.
Associate in Pediatrics Corner Shepherd and Wells Streets
London, Frederick, (1938) Ph.D., Docteur ès Sciences of the University of Paris Professor of Thcorctical Chemistry 1508 Oakland Avenue
Lovell, William F., (1950) A.B., M.D. Instructor in Medicine Duke Hospital
Lowndes, Charles Lucien Baker, (1934) A.B., LL.B., S.J.D.
Professor of Laze 2016 Club Boulevard
Lundiolm, Helge, (1930) Fil. Kand., Fil. Lic., Ph.D. Professor of Psychology

803 Second Street
$\dagger$ Lyman, Richard Sherman, (1940) B.A., M.D. Professor of Neuropsychiatry

812 Anderson Street
McBryde, Angus, (1931) B.S., M.D. Associate Professor of Pcdiatrics 410 Forest Hills Blvd., East
$\ddagger$ McColl, Jean E., (1946) B.S. Instructor in Physical Education 213 Faculty Apartments
McCracken, Joseph, (1946) A.B., M.D. Instractor in Mcdicine 126 Pinecrest Road
**McCracken, Maude, (1941) A.B., M.S. Associate in Mcdical Social Scrvice 907 N. Mangum Street
McCrea, Forrest Draper, (1930) B.S., M.S., Ph.D. Associatc Professor of Physiology and Pharmacology 1023 Demerius Street
McDermott, Malcolm, (1930) A.B., LL.B. Professor of Law

Orange County
McHugh, Gelolo, (1946) A.B., A.M., Ph.D. Assistant Profcssor of Psychology

Erwin Road
McKenzie, Lionel Wilfred, Jr., (1948) A.B., M.A. Assistant Professor of Economics

Demerius Street
McLarty, Furman Gordon, (1933) A.B., B.A., A.M., Ph.D. Associate Professor of Philosophy 1511 Page Street
Mac.Millan, Louis deRosset, (1947) A.B., C.P.A. Visiting Associate Professor of Accounting

Duke University

[^14]McPherson, S.D., Jr., (19ł9) B.S., M.D.
Instructor in Ophthalmology
29 Oak Drive
Maggs, Douglas Blount, (1930) A.B., J.D., S.J.D. Profcssor of Laze

Hope Valley
Manchester, Alan Krebs, (1929) A.B., A.M., Ph.D.
Associate Professor of History Myrtle Drive, West Campus
Maness, Paul F., (1949) A.B., M1.D.
Instructor in Pcdiatrics
Duke Hospital
Manning, Isac Hall. Jr., (1939) A.B., M.D.
Associatc in Mcdicinc
2311 Wilson Street
Margolis, George, (19ł0) A.B., M.D.
Associate in Pathology 2308 Pratt Street
Markee, Joseph Eldridge, (1943) B.S., Ph.D.
Professor of Anatomy
1015 Demerius Street
Markman, Sidney D.. (1947) A.B., M.A., Ph.D. No. 10 Duke University Assistant Profcssor of Art Apts., Markham and Fifth Streets
Martin. Elsie W.., Mrs., (1930) A.B., M.S. Professor of Dictctics
Martin, Ruth Campbell., (19+4) B.A., M.D.
206 Faculty Apartments
113 Pinecrest Road Assistant Professor of Surgery in charge of Ancsthesiology
Martin, Samuel P., (1949) M.D.
Associate in Medicine and Instructor in Bacteriology 113 Pinecrest Road
Martin, Vaxce Bacos, (1949) B.S. in E.E. l'isitiny Instructor in Elcctrical Engincering

Hillsboro, N. C.
Mason, Carolin P., (1949) B.S. Instructor in Physical Education

101 Faculty Apartments
Masser; Lucy E., (1949) R.N.. A.B., M.A. Assistant Profcssor of Public Hcalth Nursing

Baker House
Matthews, A. Minetta, (1947) B.A. Instructor in Romance Languages

Faculty Apartments
Maxuell, William Cary: (1930) A.B., A.M., Ph.D. Assistant Profcssor of Gcrman

142 Pinecrest Road
Meier, Otto, Jr., (193t) B.S. in E.E., M.S., E.E. Associate Professor of Elcctrical Engincering
Menffee, Elijah Eugene. Jr., (1940) B.S., M.D. Assistant Professor of Medicine

916 Monmouth Avenue

2207 Cranford Road
Miller, Oscar Lee. (19ł6) M.D. Lecturer in Orthopacdic Surgery

Duke Hospital
Mitchell, Frank Kirby; (1926) A.B., A. 11.
Associate Professor of English
619 Swift Avenue
Moody, James D., (1948) A.B., M.D. Instructor in Surgcry

2708 Legion Avenue
Morgan, Ralpit Pifrpont, Jr., (1946) B.S. in M.E. Instructor in M/chanical Engincering

910 Sixth Street
Moser, Louise, (1949) R.N., A.B., M.N. Assistant Profcssor of Nursing Education

Duke Hospital
*Mueller, Earl George. (19+5) B.M., A.M., M.F.A. Assistant Professor of Art

1212 Virginia Avenue
Mueller, Julia Wiliinson, Mrs., (1939-41; 1946) B.M., M.A. Assistant Profcssor of Music 1212 Virginia Avenue
Murphy, Richard J. F., (1948) B.Sc., M.D., C.M. Instructor in Medicine

1203 Ruffin Street
Myers, Hiram Earl, (1926) A.B., S.T.B., S.T.Mf. Professor of Biblical Litcrature
$1+1$ Pinecrest Road
Myers, Jack Duane, (1947) A.B., M.D. Assistant Professor of Medicine 713 Anderson Street
†Nahm, Helen, (19+6) R.N., B.S., M.S., Ph.D.
Professor of Nursing Education and Dircetor, Division of Nursing Education

Faculty Apartments
Negley, Glenn, (19+6) A.B., M.A., Ph.D. Professor of Philosophy 1700 Shawnee Street
Nelson, Ernest Willian, (1926) A.B., A.M., Ph.D. Associate Professor of History

2217 Club Boulevard
Nelrath, Hans, (1938) Ph.D. Professor of Physical Biochemistry 2505 Club Boulevard
Newson, Henry W., (1948) B.S., Ph.D. Professor of Plysies

1111 N. Gregson Street
Nicholson, William McNeal, (1935) A.B., M.D. Associate Professor of Mcdicine

824 Anderson Street
Nielsen, Walter McKinley, (1925) B.S. in E.E., Ph.D. Professor of Physies 139 Pinecrest Road
Nordheim, Lothar Wolfgang, (1937) Ph.D. Professor of Physies

2255 Cranford Road
Odom, Guy Leary, (1943) M.D. Associatc Profcssor of Neurosurgcry Hope Valley Road
Ohlson, John A., (1947) B.S., M.A. Instructor in. Psychology

Garrett Road, Route No. 1
Oosting, Henry John, (1932) A.B., M.S., Ph.D. Professor of Botany' $26+2$ University Drive, Rockwood
O'Rear, Harry B., (1948) B.A., M.D. Associate in Pediatries 1106 Alabama Arenue
Orgain, Edward Stewart, (1934) M.D. Associate Professor of Medicine

Hope Valley
Ormond, Jesse Marvin, (1923) A.B., B.D., D.D. Professor Emeritus of Practical Theology

110 Pinecrest Road
Palmer, Aubrey Edwin, ( $19+4$ ) B.S. in Engr., C.E. Assistant Professor of Citil Engincering

2519 State Strect
*Parker, Harold Talbot, (1939) A.B., Pl.D. Assistant Professor of History

Glenn Apartments
Patterson, Karl Bachman, (1920) A.B., A.M. Assistant Professor of Mathematics

1024 Monmouth Arenue
Patterson, Robert Leet, (1945) A.B., A.M., B.D., Ph.D.
Professor of Philosophy 1040 West Forest Hills Boulevard

* Absent on leave, 1949-50.
$\dagger$ Absent on leave, 1950-51.

Patton, Lewis, (1926) A.B., Ph.D. Associate Profcssor of English
Payne, Lela M., (1947) B.A., M.A. Instructor in Physical Education 614 Swift Avenue earse, Arthur Sperry, (1926) B.S., A.M., Ph.D., LL.D. Profcssor Emeritus of Zoology 803 Second Street
Pearse, Richard L., (1938) M.D. Instructor in Obstctrics and Gynccology 1325 Arnette Avenue
Peele, Talmadge Lee, (1939) A.B., M.D. University Apartments Associatc Professor of Anatomy and Associatc in Medicinc
Pemberton, John deJarnette, Jr., (1947) A.B., LL.B. Associate Professor of Law 1920 Ward Street
Peppler, Charles William, (1912) A.B., Ph.D. Professor Emcritus of Greck

406 Buchanan Road
*Perlzweig, William Alexander, (1930) B.S., A.M., Ph.D. Profcssor of Biochemistry

Hope Valley
Perry, Harold Sanford, (1932) A.B., Ph.D. Associatc Profcssor of Botany

2302 Cranford Road
Persons, Eleert Lapsley, (1930) A.B., M.D. Assistant Profcssor of Mcdicine and Associatc Profcssor of Preicntive Medicine and Public Health 723 Anderson Street
Petry, Ray C., (1937) A.B., A.M., Ph.D., LL.D. Professor of Church History

128 Pinecrest Road
Preiffer, John B., (1949) B.S., M.D. Instructor in Medicine

Westover Apartments
Phillips, James Henry, (1946) A.B., B.D., Ph.D. Assistant Professor of Biblical Literature No. 15 Duke University Apts.,

Pickens, Marshall I., (1949) A.B., M.A. Instructor in Hospital Administration
Pickett, Henry F., (1935) A.B. Instructor in Medical Art and Illustration 2506 Cornwallis Road
Pickrell. Kenneth LeRoy, (1943) M.D. Associatc Professor of Surgcry 3 Sylvan Road
Pine, Irving, (1949) M.D. Associatc in Neuropsychiatry 1701 Englewood Avenue
Pope, Hilda, (1948) A.B., M.A., Ph.D. Instructor in Bactcriology
$\dagger$ Pope, Marvin Hoyle, (1947) A.B., A.M. Visiting Instructor in Biblical Literature
Porter, F. Ross, (1930) A.B. Superintondent of the Hospital and Associate in Hospital Administration
Poston, Mary Alverta, (1930) A.M. Instructor in Bactcriology
Poteat, Mary, (1935) A.B., A.M., Ph.D. Assistant Profcssor of English * Died, December 10, 1949. $\uparrow$ Resigned, September 1, 1949.

Markham and Fifth Streets Erwin Apartments 815 Green Street

Hillsboro, N. C.
512 Watts Street
103 Facuity Apartments

Powell, Bentamin, (1946) A.B., B.L.S., Ph.D. Librarian.

626 Swift Avenue
Prall, Charles E., (1949) A.B., M.A., Ph.D.
lisiting Lecturer in Hospital Administration Greensboro, N. C.
Pratt, Lanier Ward, (1940) A.B., M.A. Instructor in Romance Languages 2007 Ruffin Street
Proctor, Arthur Marcus, (1923) A.B., A.M., Ph.D. Professor of Education

Myrtle Drive
Puppel, A. D., (1949) B.A., M.D. Instructor in Urology 1500 Ruffin Street
Pyne, J. Minetree, (1949) B.S. Instructor in Hospital Administration 1832 Forest Road
Ramin, Max, (1949) A.B., LL.B., Ph.D., LL.D. I'isting Profcssor of Law

Duke University
Rambeau, Jackson V., (1949) Ph.B., Lieutenant Colonel, U. S. Air Force Assistant Professor of Air Science 2421 Perkins Road
Raney, Richard Beverly, (1934) A.B., M.D. Assistant Professor of Orthopaedics 1110 Shepherd Street
Rankin, Robert Stanley, (1927) A.B., A.M., Ph.D. Professor of Political Science

1107 Knox Street
Rankin, Watson S. (1949) M.D., D.Sc. l'isiting Lecturer in Hospital Administration Charlotte, N. C.
Rankin, William Walter, Jr., (1926) B.E., M.A. Professor of Mathematics

1011 Gloria Avenue
Raper, Edward S., (1932) A.B. Instructor in Hospital Administration 2317 Club Boulevard
Ratchford, Benjamin Ulysses, (1928) B.S., A.M., Ph.D. Professor of Economics

133 Pinecrest Road́
Rauh, Albert E., (1949) M.D. Associate in Neuropsychiatry Roanoke, Va.
*Raymond, Mary Lois, (1931) A.B., M.A. Assistant Professor of Romance Languages Faculty Apartments
Reamer, I. Thomas, (1931) Pl.G. Instructor in Pharmacy 2114 Woodrow Street
Reardon, Kenneth J., (1947) A.B., A.M. Assistant Professor of English

2610 Duke Homestead Road
Reed, Frederick Jerome, (1935) M.E.. M.S. Associate Professor of Mechanical Engineering 2203 Englewood Avenue
Rees. Ennis Samuel, (1949) A.B., M.A. Instractor in English

1813 Hillcrest Drive
Reeves, Robert James, (1930) A.B., M.D. Professor of Radiology

920 Anderson Street
Reichenberg-Hackett, Wally, Mrs., (1946) Ph.D. Assistant Professor of Psychology

Route 1, Erwin Road
Rentz, Thomas Eugene, (1949) B.A. Instructor in Romance Langnages

Duke University * Died, August 5, 1949.
*Reynolds, Thomas D., (1948) B.A., M.A., Ph.D. Instructor in Mathematics

711 Knox Street
Rhine, Joseph Banks, (1927) B.S., M.S., Ph.D. Dircctor of Parapsycholoyy Laboratory

908 W. Club Boulevard
Richards, Claude Henry, Jr.. (1946) A.B., A.M., Ph.D.
Assistant Professor of Political Scicuce 1407 N. Gregson Street
Rider, Annette S., (1949) R.N.. B.S. Instructor in Obstctrical Nursing 915 Chester Street
Robbins, J. Albert, Jr., (1946) B.A., M.A., Ph.D. Instructor in English
Rohert, Joseph Clarke, (1938) A.B., A.M., Ph.D. Professor of History 1102 B Strect
Roberts, Henry S., Jr., (1948) A.B., Ph.D.
Assistant Professor of Zoology R.F.D. Box 595, Duke Homestead Road
Roberts, John H., (1931) A.B., Ph.D.
Professor of Mathematics 2813 Legion Avenue
Roberts, Louis Carroll, (1933) B.S., M.D. Instructor in Urology 600 N. Gregson Street
Rodnick, Eliot H., (1949) A.B., Ph.D. Profcssor of Psychology and Director of Clinical Training 411 Francis Street
Rogers, Robert S., (1937) A.B., A.M., Ph.D., F.A.A.R. Profcssor of Latin

148 Pinecrest Road
Ropp, Theodore, (1938) A.B., A.M., Ph.D. Associatc Professor of History 302 Woodridge Drive
Rose, Jesse Lee, (1936) A.B., M.A., Ph.D. Assistant Profcssor of Latin and Grcek 603 Watts Street
Ross, Norman F., (1937) D.D.S. Instructor in Dentistry Chelsea Circle, Hope Valley
Ross, Robert Alexander, (1930) B.S., M.D. Associatc Professor of Obstctrics and Gynccology 818 Anderson Street
*Ross, William Dee, Jr., (1946) A.B., A.M. Instructor in Economics University Apartments
Rowe, Gilbert Theodore, (1928) A.B., S.T.D., D.D., Litt.D. Professor Emcritus of Cluristian Doctrinc

150 Pinecrest Road
Rucker, Marvin Pierce, (1941) A.B., M.D.. LL.D. Lecturer in Obstetrics and Gynecology'

Richmond, Va.
Rudin, John J., II, (1945) A.B., B.D., M.A. Assistant Profcssor of Specch

810 $1 \%$ North Street
Rudin. Walter, (1949) A.B., M.A., Ph.D. Instructor in Mathematics

Duke University
Rudisill, Mabfl, (1948) A.B., M.A., Ph.D. Associatc Professor of Education

Guess Road
Rudolph, Victor John, (1948) B.S., M.F. Assistant Professor of Forest Management

1104 Ninth Street
Ruffin, Julian Meade, (1930) A.B., M.A., M.D. Professor of Mcdicinc

816 Anderson Street

* Resigned, September 1, 1949.

Rundles, Ralph Wayxe. (19+5) A.B., Ph.D., M.D. Assistant Professor of Medicine

132 Pinccrest Road
Ruxkel. Howard W.. (1949) B.A., M..A. Instructor in English

1408 Duke Lniversity Road
Russell, Elbert, (1926) A.B., A.M.. Ph.D., Litt.D. Dean Emeritus of the Diainity School

Duke University
St. John, J. Harold, (1949) B.S., M.D.
Instructor in Medicine
Piedmont Village
Sanders, C. Richard. (1937) B.Ph., M.A., Ph.D. Associate Professor of English

808 Fifth Street
Saville, Eugenia Curtis, Mrs., (1947) A.B., M.A. Instructor in Music

Satille, Lloyd B., (1946) A.B., M.A. Assistant Professor of Economics

No. 14 Duke University Apts., Markham and Fifth Streets
No. $1+$ Duke University Apts., Markham and Fifth Streets

Saifyer, Charles Henry; (19ł4) A.B.. Ph.D. Associate Professor of Anatomy

2119 Englewood Avenue
Saylor, John Henry: (1928) A.B., A.M., Ph.D. Professor of Chemistry 707 Club Boulevard
Scanlon: William G.. (1949) M.D. Associate in Neuropsychiatry 615 Ruby Street
Scheinserg, Peritz, (1949) A.B., M.D. Instructor in Medicine

227 Dacian Avenue
Schettler, Clarence Henry, (1946) A.B., A.M., Ph.D. Associate Professor of Sociology

2162 Guess Road
Schiebel. Herman Max, (1939) A.b., M.D. Associate in Surgery
$1+10$ Pemnsylvania Avenue
Schieve. James V., (1949) D.V.M., M.D. Instructor in Medicine 2312 Wilson Street
Schumacher, Francis X.. (1937) B.S. Professor of Forestry 6 Sylvan Road
Schilerman. Esther Louise, (1947) B.M., A.B., M.A. Assistant Professor of Specch 1102 Monmouth Avenue
Schwert, George, Jr., (1946) B.A., Ph.D. Assistant Professor of Biochemistry 615 Colgate Street
Scott, Ernest F.. (1949) D.D., LL.D. V'isiting Professor of New Testament Duke University
Sealy, Will Camp. (1946) B.S., M.D. Assistant Professor of Surgery 919 Monmouth Avenue
*Seeley, Walter James, (1925) E.E.. M.S. Professor of Electrical Engincering 1005 Urban Avenue
Sewall, Lee G., (1949) A.B., M.D. Assistant Professor of Neuropsychiatry

Roanoke, Va.
Sharp, D. Gordon. (1939) B.S., M.A., Ph.D.
Assistant Professor of Biophysics in Experimental Surgery and Biophysicist to Duke Hospital

202 Francis Street
Shears. Lambert Armolr, (1927) A.B., A.M1., Ph.D. Associate Professor of German

917 Green Street *Absent on sabbatical leave, second semester, 1949-50.
*Shepherd, Harold, (1939) A.B., J.D., LL.D.
Professor of Lazw and Dean of the School of Lazu
Cole Mill Road
Shields, John Herman, (1926) A.B., A.M.
Associate Professor of Accounting
1315 Vickers Avenue
Sherwood, Mildred M., (1948) R.N. Instructor in Pediatrics

Baker House
Shingleton, William W., (1947) A.B., M.D. Instructor in Surgery

2401 Club Boulevard
Sibley, Charles K., (1949) A.B., M.A.
Instructor in Art
$70+$ Holloway Street
Silver, George A., (1948) B.S.. M.D. Associate in Neuropsychiatry 2005 Arbor Street
Simmons, Enward C., (1947) A.B., A.M., Ph.D. Associate Professor of Economics

2510 Perkins Road
Simpson, William Hays, (1930) A.B., A.M., Ph.D.
Associate Professor of Political Science
1406 Dollar Avenue
Singletary, William V., (1949) A.B., M.D. Instructor in Medicine

2018 Sprunt Street
Slaughter, Grimes, (1948) B.S. in E.E. Instructor in Electrical Engineering

Duke University
Slay, James Matthew, (1946) A.B., M.A. Instructor in Education
Smith, David Tillerson, (1930) A.B., M.D.
1222 Arnette Avenue Hope Valley Professor of Bacteriology and Associate Professor of Medicine
Smith, Hilrie Shelton, (1931) A.B., Ph.D., D.D., Litt.D. Professor of American Religious Thought

1523 Hermitage Court
$\dagger$ Smith, Robert Sidney. (1932) A.B., A.M., Pl.D. Professor of Economics

2236 Cranford Road
Smith, Susan Gower, Mrs., (1930) A.B., M.A. Associate in Nutrition

Hope Valley
Smith, William V., (1946) B.S., Ph.D. Associate Professor of Physics

1208 Dwire Place
Snow, Willian Brewster, (1948) B.S. in C.E., M.S., Sc.D. Associate Professor of Civil Enginecring 1022 W. Trinity Avenue
Spence, Bessie Whitted, Mrs., (1929) A.B., A.M., B.D. Assistant Professor of Biblical Literature

Hope Valley
Spence, Hersey Everett. (1918) A.B., A.M., B.D., D.D., Litt.D. Professor of Biblical Literature and Religious Education Hope Valley

Spengler, Joseph John, (1934) A.B., M.A., Ph.D. Professor of Economics

2240 Cranford Road
Sponer, Hertha, (1935) Ph.D. Professor of Physics

Hope Valley
Stansbury, Dale F., (1946) B.S., LL.B., J.S.D. 1008 W. Trinity Avenue Professor of Laze and Faculty Director of Law Library
Starke, Helen, (19+8) A.B., M.D. Instructor in Medicine

* Resigned, September 1, 1949.
$\dagger$ Absent on sabbatical leave, first semester, 1949-50.

Stead, Eugene Anson, Jr., (1947) B.S., M.D. Florcnce MeAlister Professor of Medicine

2122 Myrtle Drive
Stevens, Harry R., (1947) A.B., M.A., Ph.D. Assistant Professor of History University Apartments
Stinespring. William Franklin, (1936) B.A., M.A., Ph.D. Professor of Old Testament

1107 Watts Strect
Stocker, Frederick W., (19+3) M.D. Associate Prafessor of Ophthalmology 1021 Minerva Avenue
Stondard, Leland Douglas, (1946) A.B., M.D. Instructor in Pathology
Stonf, Enward, (19ł9). B.A., M.A. Instructor in English 905 Fifth Strect
Strobel, Howard A., (19ł8) B.S., Ph.D. Instructor in Chemistry Duke University
Stcmpf, Wippert A.. (1948) B.S., M.A.. Ph.D. Associate Professor of Education

127 Pinecrest Road
Styron, Charles Woodrow; (1946) B.S., M.D. Associate in Mcdicine Duke Hospital
Sugden, Herbert Wilfred, (1929) A.B., A.MI., Ph.D. Assistant Profcssor of English

University Apartments
Suitt, Robert Burke, (1940) M.D. Assistant Professor of Neuropsychiatry 1131 Dollar Avenue
*Suxderland. Elizabeth Read, (1939-42; 19+3) A.B., A.M.. Ph.D.
Assistant Professor of Art College Station
Sutherland, George Fraser, (1946) M.D., M.Sc.
I'isiting Associate Professor of Neuropsychiatry Forest Hills Boulevard
Swanson, Louis E., (1949) A.B. Instructor in Hospital Administration

1006 Shepherd Street
Swaser, Martha G., Mre.. (19+6) B.A., M.A. No. 12 Duke University Apts., Instructor in Physical Education Markham and Fifth Streets
Switzer, Byron R., (1949) B.S., Colonel, U. S. Air Force Professor of Air Science

2402 Chapel Hill Road
Sydnor, Charles Sackett, (1936) A.B., Ph.D., Litt.D. Professor of History

116 Pinecrest Road
$\dagger$ Talbert. Ernest William, (19+2) A.B., M.A., Ph.D. Associate Professor of English

Duke University
$\ddagger$ Taylor, Hartey Grant, (1945) A.B., A.M., Ml.D. Associate Professor of Pediatrics and Bactcriology, Route 2. Hillsboro, N. C. and Assistant Dean of Medical School
Tajlor, Haywoon Maurice, (1930) B.S., M.S., Ph.D.
Associate Professor of Biochemistry and Toxicology
University Drive, Rockwood
Thomas, Joseph Miller, (1930) A.B., Ph.D. Professor of Mathematics

2215 Cranford Road
Thomas, Walter Lee, Jr., (1932) A.B., A.M.. M.D. . Issociate Professor of Obstctrics and Gyuccology

415 Carolina Circle

* Absent on leare, 1949-50.
$\dagger$ Resigned, September 1, $19+9$.
$\ddagger$ Absent on leave, July, 19+9, to July, 1951.
*Thompson, Edgar Tristram, (1935) A.B., A.M., Ph.D. Professor of Sociology

138 Pinecrest Road
Thompson, Frederick A., Jr., (1950) M.D. Instructor in Medicine Duke Hospital
$\dagger$ Thomson, Roy Bertrand, (1938) B.S., M.F., Ph.D. Professor of Forest Economics

2243 Cranford Road
Trayis: Martin Bice, Jr., (19ł9) A.B., M.A., Ph.D. Assistant Professor of Political Science

2405 University Drive
Truesdale, James N., (1930) A.B., A.M., Ph.D. Assistant Professor of Greck

Faculty Apartments
Turner, Violet Horner, (1947) B.A., M.D. Instructor in Obstetrics and Gynecology

2106 Cole Road
Uhrhane, Luella J., (1947) R.N., B.S. Instructor in Health Education

402 Erwin Apartments
Vail. Charles Rowe, (1939) B.S. in E.E., M.S. (E.E.) Assistant Professor of Electrical Enginecring

900 Dacian Avenue
Van Arsdall. Clyde J., Jr., (1948) B.S., Commander, U. S. Navy Associate Professor of Naval Science 421 Carolina Circle
Vance, Mary Hendren, Mrs., (1926) A.B., A.MI. Assistant Professor Emeritus of English

Duke University
$\ddagger$ Van Wagenen, Richard W., (19+7) A.B., M.S., Ph.D. Associate Professor of Political Science

2017 Sprunt Street
Vollmer, Clement. (1926) A.B., A.M., Ph.D. Professor of German

2114 Myrtle Drive
yon Beckerath, Herbert, (1935) Pl.D. Professor of Economics and Political Science Hope Valley
Vosburgh, Warren Chase, (1928) B.S., M.S., Ph.D. Professor of Chemistry 2319 Englewood Avenue
Wacherman, Albert Edward. (1938) B.S., M.F. Professor of Forest Utilization

Dover Road, Hope Valley
Wade, W'allace. (1931) A.B. Head Coach of Football Myrtle Drive
Walton, Arley John, (1948) A.B.. B.S.L.
815 Third Street Associate Professor of Practical Thcology and Director of Ficld Work
**Walton, Loring Baker, (1929) A.B., Lic. ès L., Ph.D. Professor of Romance Languages

2235 Cranford Road
Whad, Charles Eugene, (1927) A.B., A.M., Ph.D. Associate Professor of English

2429 Perkins Road
$\dagger$ †Ward, Margaret Chapman, (1946) A.B.. A.M.. Ph.D. Instructor in Zoology'

202 Erwin Apartments
Wrarren, John Rush, (1946) A.B., M.S. Instructor in Botany

Old Raleigh Road
Watson, Richard L.. Jr., (1939) A.B., Ph.D. Assistant Professor of History

1524 London Circle

* Absent on sabbatical leave, second semester, 1950-51.
$\dagger$ Absent on sabbatical leave, first semester, 1950-51.
$\stackrel{\rightharpoonup}{t}$ Absent on leave, 1949-50.
** Absent on sabbatical leave first semester, 19+9-50.
$\dagger$ Resigned, September 1, $19+9$.

Whay: Vernon Elgin, (1930) A.B., A.M., M.A. Assistant Professor of Greck

918 Urban Avenue
Webb, Albert Micajail, (1903) A.B., A.M. Professor Emeritus of Romance Languages
Webb, Bailey Daniel. (1949) B.S., M.D. Instructor in Pcdiatrics

1017 Trinity Avenue
317 West Trinity Avenue
*Webster, Grace, (1947) B.S. in Ed. Instructor in Physical Education

211 Epworth Inn
Weeks, К. D., (1947) B.S., M.D. Instructor in Mcdicine

University Apartments
Welsh, Paul, (1948) A.B., Ph.D.
Assistant Professor of Philosophy
Wetherby, Joseph C., (19+7) A.B., M.A. Assistant Professor of Specch

Faculty Apartments
2306 Prince Street
†Wharton, George Willard, Jr., (1939) B.S., Ph.D. Associate Professor of Zoology

1202 Oval Drive
White, Joseph Warren, (1946) A.B., M.D. Lecturer in Orthopacdic Surgery

Duke University
White, Marie Anne, Mrs., (1930) A.B., A.MI. Assistant Profcssor of English

107 Pinecrest Road
Whitringe, Eugenia R., Mrs., (1947) A.B., A.M., Ph.D. Assistant Professor of Sociology

Vesson Street
Widgery, Alban Gregory, (1930) B.A., M.A. Profcssor of Philosophy

St. Catherine, Pinecrest Road
Wien, Janet, (1949) A.B., M.S. Associate in Medical Social Serive
Wiener, Thomas G., (1948) B.A., M.A. Instructor in Russian Languagc and Literature
Wilbur, Karl Milton, (1946) A.B., A.M., Ph.D. Associatc Professor of Zoology

University Apartments
Pineriew Apartments, 803 Demerius Street

Wilbur, Leslie Clifford, (1949) B.S., MI.S. Instructor in Mechanical Engincering

2414 Club Boulevard

Wilbur, Ralph Sydney, (1933) B.S. in M.E., M.E. Professor of Mechanical Enginecring

Duke University

Wilder, Jesse Holland, (1948) B.S. in M.E., M.S. Instructor in General Enginecring

Duke University
Wilder, Pelhami, Jr., (1949) A.B., M.A., Ph.D. Instructor in Cluemistry

2411 University Drive
Wilkinson, Whlliam E., (1949) B.S., M.D. Professor of Military Science and Tactics and Associate in Ncuropsychiatry

1204 Ruffin Street
Williams, D. Mf., (1947) B.S. Lecturer in Precentize Medicine and Public Mcalth 1107 Alabama Avenue
Williams, James Wesley; (1937) A.B., B.S. in C.E., M.S. Assistant Professor of Ciail Engincering

206 Swift Avenue
Williams, Philip, (1949) B.A., M.A., Ph.D. Instructor in English

Faculty Apartment Amex

[^15]Wilson, Florence K., (1946) R.N., B.A., M.A. Faculty Apartments Professor of Nursing and Dcan of the School of Nursing
Wilson, Frederick Eliphaz, (1923) A.B., A.M. Associate Professor of German

1020 Demerius Street
Wilson, Mardis Glen, (1949) B.A., M.A. Instructor in English 905 Second Street
Wilson, Robert North, (1910) A.B., M.S. Professor Emeritus of Chemistry

822 Third Street
Wilson, Robert Renbert, (1925) A.B., A.M., Ph.D., LL.D. P'rofessor of P'olitical Science 717 Anderson Street
Witilers, Loren, (1949) B.M., B.S., M.S. No. 8 Duke University Apts., Instructor in Music Markham and Fifth Streets
Wolf, Frederick Adolphus, (1927) A.B., A.M., Ph.D. Professor of Botany

924 Urban Avenue
Wood, James W., (1949) M.D. Instructor in Medicine Duke Hospital
W'oodhall, Barnes, (1937) A.B., M.D. Professor of Neurosuryery

Dover Road, Hope Valley
Woony, Robert Hilliard, (1929) Ph.B., A.M., Ph.D. Associate Professor of History $26+8$ University Drive
Wright, DeWitt, (1943) B.S., J.D. Instructor in Hospital Administration Hillsboro, N. C.
Yates, Warren G., (1949) A.B., A.M. Instructor in German 906 Spruce Street
Young, David A., (1946) A.B., M.D. Lecturer in Neuropsychiatry

Duke Hospital
Young, Edward Hudson, (1923) A.B., A.M. Assistant Professor Emeritus of Romance Languages Beverly Apartments
Young, Franklin Woodrow, (1945) A.B., B.D., Ph.D. Assistant Professor of Biblical Theology No. 13 Duke University Apts., Markham and Fifth Streets
Zener, Karl Edward, (1928) Ph.B., A.M., Ph.D. Professor of Psychology

Sparger Road

Prayerman, Elizabeth Parks. Mrs., (1949) A.B. Instructor (Part-time) in English, Duke University
Brown, William Ward, (1949) B.S., M.S. Instructor (Part-time) in Plysics Duke University
Crutchfield, Robert Willingham, (1949) B.S., M.A., C.P.A.
Visiting Associate Professor (Part-time) of Economics Chapel Hill, N. C.
Davis, Roger Baxter, Licensed Architect IVisiting Instructor (Part-time) in General Enyincering R.F.D. No. 1
Deener, David R., (1948) A.B., A.M. Instructor (Part-time) in Political Science Duke University
Dickens, Robert L., (1949) B.S. Instructor (Part-time) in Economics Duke University
Emia, Ronald D., (1949) B.A. Instructor (Part-time) in Economics 1010 Gloria Avenue
Farthing, Madeline, (1949) A.B., M.Ed. Instructor (Part-time) in Education 1120 Eighth Street

Guilds, Joh. C., (1948) A.B., M.A. Instructor (Part-time) in Emglislı Duke University
Hartz, Edwin Rlbex, (1949) A.B., B.D., M.A. Instructor (Part-time) in Sociology

Duke University
Hathorn, Guy B., (1948) A.B., A.MI. Instructor (Part-time) in Political Science

Duke University
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Brees, Anton
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*Smith, Erma Anita, A.B., M.A.. Ph.D., M.D.
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Resident Nurse, Woman's Collcge
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Vestal, Mozelle, R.N.
Resident Nurse, Woman's Collcge
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Dircctor of Womcn's Glec Club 2401 Cranford Road
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Dircetor of the Madrigal Singers Markham Avenue and Fifth Street
Bone, Allan H., B.A., M. M.
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Stone, Mary H., B.A.
Art Curator
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*Gatling, Eva Ingersoll, B.A., M.A.
Dirctor of Erhibitions and Supervisor of Art Equipment Hillsboro, N. C.

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Whitaker. Mrs. Frances M., A.B., A.M.
Assistant to Dean of Residence; Counselor, Brown Housc Brown House
Pemberton, Mrs. Mary Norcutt
Hostess, IV cst Campus
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Barnes, Evelyn, B.S.
Counsclor, Alspaugh House
Alspaugh House

* Resigned, June 30, 1949.

Barnwell, Polly, A.B.
Counsclor, Pegram House Pegram House
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Southgate House
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Richarbs, Martha, A.B.
Counsclor, Aycock House Aycock House
Taylor, Mrs. Harriet
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| Oliver, John Burrell <br> A.B., A.M., University of North | History Carolina | lege Park, Ga. |
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| Hamrick, Еmmett W. <br> A.B., University of North Carolin |  | Shelby, N. C. |
| Poteat, William Hardman Religion A.B., Oberlin College; B.D., Yale University |  | Chapel Hill, N. C. |
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| Beatson, James Allen <br> A.B., A.M., Duke University | History | C. |
| Byers, Gordon Cleaves <br> A.B., University of Michigan | Mathematics | ck |
| Edwards, Margaret Jean <br> A.B., Tusculum College | Political Science | , N. C. |
| Farthing, Carrie Lee <br> B.S., Appalachian State Teachers | English <br> College ; A.M., Duke | Boone, N. C. University |
| Gitlin, Emmanuel Moiseyevich Religion <br> B.A., Texas Christian University; B.D., Duke University |  |  |
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| King, Doris Elizabeth History <br> A.B., Georgia State Woman's College; A.M., Duke University |  |  |
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| Wilson, Ulrey Kaulback <br> A.B., University of Chattanooga; | Education A.M., Duke University | y ${ }^{\text {arlam, N. C. }}$ |
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Carroll, Kenneth Lane Religion Easton, Md. A.B., B.D., Duke University

Cunningham, Noble E., Jr.
History
B.A., University of Louisville; A.M., Duke University

Dail, Bernard Eugene Economics Kinston, N. C. A.B., Duke University

Elliott, Don Ringgold Political Science Arkadelphia, Ark. B.A., Henderson State Teachers College

Friend, Fred Erwin
English
Nashville, Tenn. A.B., A.M., Duke University

Gladner, Jules A. Bacteriology Wilmington, Del. B.S., M.S., University of Delaware

Gough, Carolyne Frances Political Science Beechhurst, L. I., N. Y. A.B., M.A., Marshall College

Harmon, John Engler Political Science Wheeling, W. Va. A.B., A.M., West Virginia University

Hollyday, Frederic Blackmar M. History B.A., Washington and Lee University

St. Michaels, Md.
Lyles, James Robert, Jr. Education Heath Springs, S. C. A.B., Wofford College; M.A., University of South Carolina

McCain, Paul Moffatt $\quad$ History Decatur, Ga. B.A., Erskine College ; A.M., Duke University


## THE COLLEGES

## GENERAL STATEMENT

Duke University offers in Trinity College, the Woman's College, and the College of Engineering the following academic degrees for undergraduate work: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Nursing Education, and Bachelor of Science in Civil, Electrical, or Mechanical Engineering.

## TRINITY COLLEGE

Trinity College, situated on the West Campus, is the undergraduate college of arts and sciences for the men of Duke University. Through the catholicity of its subject matter, its insistence on a common core of fundamental courses, and its emphasis on a more intensive study of some selected subject, the College aims to give its students a knowledge and appreciation of the culture of the Western World and at the same time to provide a foundation for careers in business and the professions. Its fundamental object is to develop the individual talent of its students.

## THE WOMAN'S COLLEGE

The Woman's College, the college of arts and sciences for undergraduate women, is situated on the East Campus. As a co-ordinate college within the University system it offers distinctive advantages. The superior faculties, libraries, and laboratories of the university are available: yet the students also have the special opportunities which belong to a separate woman's college. They receive training in leadership by administering their own organizations and by participating in community projects. At the same time they have the stimulus which comes from co-educational classes and the experience of working with the men of the other colleges in many campus activities.

## THE COLLEGE OF ENGINEERING

The College of Engineering, one of the three undergraduate colleges of the University, offers standard four-year programs of study in Civil, Electrical, and Mechanical Engineering. All three curricula are fully approved by the national accrediting agencies of the engineering profession. Courses in the humanities have been given due recognition because it is realized that the engineer has definite responsibilities as a citizen and these responsibilities cannot be properly stressed in the purely technical curricula. Men and women civilian students, as well as members of both the Air ROTC unit and the Naval ROTC unit, are admitted to the College. Engineering students may participate in all general campus organizations and activities as well as in those of the College of Engineering.

## THE LIBRARIES

The University Libraries contained 960,859 volumes and more than a million manuscripts at the end of the school year 1948-49. Many additional hundreds of rare books, periodicals and newspapers are available in the 3.129 reels of microfilm which the Library possesses. Seventy foreign and domestic newspapers and about 3.600 periodicals are received currently:

The General Library, in which 618.613 volumes are shelved, is centrally located on the West Campus. The Undergraduate Reading Room on the first floor contains a selected collection of 3.500 books for general reading, together with an equal number of supplementary volumes reserved for undergraduate courses. One of the features of this tunit of the Library is an attractively furnished room opening off the Undergraduate Reading Room, with a selection of current books of general interest on open shelves. The main reference room of the Library, containing 5.000 volumes of important reference works of a general character, is on the second floor. Nearby are the Loan Desk, where books may be borrowed from the stacks, and the Union card catalog, a record of all the books in the University Libraries. In the same general area is the Documents Room, which houses the official publications of the federal and state government. These areas are open to all students.

The General Library building has been doubled in size by completion of an addition which was begun in 1947. The new area contains stacks, special reading rooms, offices for staff and faculty, and reading and storage facilities for rare books and manuscripts. The entire area for book storage, rare books and manuscripts is air-conditioned. Seniors, honor students, and others undertaking special studies may be admitted to the stacks of the General Library.

The Chemistry library of 13,555 volmmes, the Physics-Mathematics library of 13,002 rolumes, the Biology-Forestry library of 40.090 rolumes, are housed for the convenience of the faculty and students in the buildings of these departments. The libraries of the schools of Divinity (46.318) Law $(89,122)$, and Medicine $(48,070)$, and the College of Engineering (12.994) likewise are shelved in the buildings of these special schook. Undergraduate students may, if occasion demands, have access to material in any of the libraries.

The Woman's College Library contains 79.095 volumes, chiefly the books most constantly needed in the undergraduate work of women students. An attractive feature of the library is the Booklovers' Room. where on open shelves students may find interesting books in various fields. In honor of Mr. James A. Thomas, the Thomas Memorial Room was opened in December, 1942, affording a quiet, attractive place for study or reading. The decorations and furnishings in the room were provided by Chinese and American friends of Mr. Thomas.

## THE AIR FORCE RESERVE OFFICERS' TRAINING CORPS

Duke University, in cooperation with the United States Air Force, operates an Air Force Reserve Officers' Training Corps program admin-
istered by an Air Force ROTC Unit under the command of a Professor of Air Science and Tactics. The unit functions as a regular department of instruction known as the Department of Air Science. It selects and trains students, who possess the requisite character, intelligence, desire, and sense of duty, to become Air Force Officers.

For enrollment in the Basic Course (freshman and sophomore years) the student must:
a. Be a male citizen of the United States.
b. Be physically qualified under standards prescribed by the Air Force. Due allowance will be made for defects which are correctible prior to the student's eligibility for appointment as a commissioned officer.
c. Be accepted by the institution as a regularly enrolled student.
d. Be not less than 14 years of age and not have reached 23 years of age at the time of enrollment.
e. Successfully complete such general survey and screening tests as may be prescribed.
For enrollment in the Advanced Course (junior and senior years) the student must:
a. Have successfully completed the Basic Course or have had at least one year of honorable service.
b. Execute a written agreement with the government to complete the Advanced Course, contingent upon remaining in school, and to attend the Advanced Summer Camp at the time specified.
c. Not have reached 27 years of age at the time of initial enrollment in the Advanced Course.
d. Successfully complete such general survey and screening tests as may be prescribed.
e. Be selected by the Professor of Air Science and Tactics and the appropriate authority of the institution.
All uniforms, texts, and training equipment required for the Air Science Course are furnished at government expense and students are paid approximately $\$ 600.00$ while completing the Advanced Course.

Upon graduation and completion of the Advanced Course students will be offered commissions as Second Lieutenants in the Air Force Reserve. Outstanding students will be offered life time careers in the Regular Air Force. Flying training is available after graduation for those who desire it and are physically qualified.

A student enrolled in Air Force ROTC is eligible for deferment from the Draft.

## THE NAVAL RESERVE OFFICERS' TRAINING CORPS

The postwar NROTC was established by Public Law 729, signed by the President on August 13, 1946. This law, commonly known as the Holloway Plan, instituted the selection and training of officer candidates for the Navy and Marine Corps by means of Naval Scholarships in colleges and universities throughout the country. A Naval ROTC Unit,
under the command of the Professor of Naval Science, a Captain in the regular Navy, is located at Duke University.

The purpose of the NROTC is to provide a steady supply of welleducated junior officers for the line and staff corps of the regular Navy and Marine Corps and to build up a Reserve of trained officers who will be ready to serve their country in a national emergency. The NROTC, the U. S. Naval Academy, and the Naval Aviation Cadet Program are the three sources of career officers for the Navy. Officers commissioned from these sources are assured equal rank, treatment, and opportunity.

Scholarships are awarded to candidates selected as a result of an annual nation-wide test and selection procedure. These men are designated as Regular NROTC Students and are appointed Midshipmen, USNR. The scholarship covers the cost of tuition, fees, and textbooks. NROTC Midshipmen receive retainer pay at the rate of $\$ 600$ per year. The Navy furnishes necessary uniforms and equipment.

Normally students will attend college for four years while in the NROTC. They may take any course leading to a baccalaureate or higher degree, except that Midshipmen entering in 1950 and thereafter may not pursue courses leading to degrees in pre-medicine, pre-dentistry, pretheology, medicine, dentistry, or theology. They must include in their courses of study 24 semester hours of Naval Science plus certain minimum requirements in mathematics, physics, and English. They will wear the uniform only when engaged in drills or other Naval Activities prescribed by the Professor of Naval Science, and except for the ordinary requirements of gentlemanly behavior will be subject to Naval discipline only at those times. They are required to make two summer cruises at sea, and one summer training period of amphibious and aviation indoctrination. Upon graduation Regular NROTC students must accept a commission as Ensign, USN, or Second Lieutenant, USMC, if offered, and will be ordered to active duty for a period of 15-24 months. After fifteen months service those so desiring may request an additional year of active duty, and apply for permanent retention in the services as career officers. Those who do not desire to remain as career officers must accept a commission in the Reserve of the appropriate service and remain in the Reserve at least until the sixth anniversary of their first commission. Reserve Officers are not called to active duty except during a declared emergency or war, unless at their own request.

A second type of officer candidate in the NROTC is the Contract NROTC Student. These students are selected from qualified students regularly enrolled in Duke University. They have the status of civilians who have entered into a mutual contract with the Navy. They do not receive the compensation or benefits paid the Regular NROTC Student, but are furnished uniforms, Naval Science textbooks and equipment : and a subsistence allowance (currently 90 cents per day) during the final two years of NROTC training. Contract students make one training cruise during which they receive active duty pay. Contract students on graduation must accept a commission in the Naval or Marine Corps Reserve, but may, if they so desire and their services are required, request
active duty and a commission in USN or USMC. If ordered to active duty they then are eligible for selection as career officers under the same provisions as graduating NROTC Regulars.

Under the provisions of the Selective Service Act of 1948, Regular NROTC Students who serve a period of active duty as an integral part of their training under Public Law 729 are deferred from Selective Service. Contract Students, by virtue of an agreement to accept a commission on graduation and to serve on active duty if required, are deferred from Selective Service. All NROTC Students are considered on inactive duty in the Naval Reserve while in college, and such service may not be counted for exemption or deferment should a student be separated from the program for any reason.

## TRINITY COLLEGE AND THE WOMAN'S COLLEGE

## ADMISSION

Applicants may qualify for admission to Trinity College or the Woman's College as members of the Freshman Class or as students with adranced standing. Since the enrollment in the two colleges is limited, the Committee on Admissions will select the students who, in its opinion, are best qualified to benefit from the educational adrantages which the colleges offer.

## APPLICATION FOR ADMISSION

Application for admission to Trinity College should be made to the Secretary of Duke University, Duke Station, Durham, North Carolina, for transmittal to the Council on Admissions. Application for admission to the Woman's College should be made to the Committee on Admissions, College Station, Durham, North Carolina. Forms of application will be sent on request.

## GENERAL REQUIREMENTS

Admission to Trinity College and to the Woman's College is dependent upon the ability, attainments, and character of the applicant. Each applicant must see that the Committee on Admissions receives a complete record of his work in secondary school or college, the required medical certificate, and satisfactory evidence of his good character and ability.

## SPECIFIC REQUIREMENTS

An applicant for admission to the Freshman Class must present at least fifteen acceptable units of secondary school credit. A unit of credit is allowed for a course of study pursued throughout an academic year in an accredited secondary school, provided five recitations per week have been held and the prescribed amount of work has been completed satisfactorily:

1. Twelve units must be in English, foreign language, history and social studies, mathematics, and natural science; and must include:
(a) English-3 units.
(b) Algebra-1 unit.
(c) Plane geometry-1 unit.
2. The three additional units may be in the subjects listed above or from those in the following table. The units indicate the maximum amount of credit acceptable in each subject:


## ADMISSION BY CERTIFICATE

A graduate of an accredited school, who submits fifteen acceptable units of secondary school subjects, is recommended by his principal, and otherwise meets the requirements of the Committee on Admissions, may be admitted without examination. The certification and recommendation must be on blanks furnished by the College and signed by the principal of the school in which the applicant completed his course.

## ADMISSION BY EXAMINATION

An applicant who presents fifteen acceptable units for admission from a nonaccredited school is required to validate these units by entrance examinations and such other tests as the College may prescribe.

## ADMISSION WITH ADVANCED STANDING

A student of good character who has completed satisfactorily at least one full year of college work in an approved college may be admitted with advanced standing. He must have fulfilled the equivalent of the requirements for admission to the Freshman class, must present official certificates of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Credit for work completed will be determined in relation to the curriculum of Trinity College or the Woman's College.

A student enrolling for the Bachelor's degree, who transfers from a junior college or from a four-year college not affiliated with the Southern or a similar regional association, must continue, for at least one semester in Trinity College or in the Woman's College, the foreign language he presents for minimum graduation requirements. Credit for courses in science offered for advanced standing by a transfer from a junior college or a non-affiliated four-year college will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of " C " in a normal load of work. Transfer grades of "C" or above are rated at one quality point per credit hour when validated.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and not more than six semester hours credit is allowed for extension courses. Any extension work accepted must be specifically approved by the Dean of the College.

## ADMISSION FOR SPECIAL WORK

Upon the approval of the Dean, a student of mature age may be admitted for special work in such courses of instruction as he is qualified to take. He may not be admitted as a candidate for a degree in a regular course unless he meets all requirements for admission.

## READMISSION OF FORMER STUDENTS

A student, who, following withdrawal from College, desires to return, should apply to the Committee on Achnissions. When applying for readmission the student should make a detailed statement of his or her activities since withdrawal from College.

## PRELIMINARY TESTS AND EXAMINATIONS

General ability and achierement tests are administered to all entering students during an orientation period at the beginning of each semester. These tests enable the appropriate adviser to prepare a course of study adapted to the ability and achierements of the individual student. Physical examinations are also given.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

The requirements for the degree of Bachelor of Arts are based on the principle that the student will derive the maximum benefit from his college work if his program includes a broad distribution of studies among representative fields of culture, concentration within a special field, and some work of his own choice.

For graduation with the degree of Bachelor of Arts, the following course work must be completed in accordance with the academic regulations as stated on pages 161-165 of this, Bulletin.
Uniform Course Requirements ..... S.H.
English Composition ..... 6
Foreign Language ..... 6-18
Natural Science ..... 11
Religion ..... 6
Social Science and History ..... 12
Literature. Music, Art, and Philosophy ..... 6
Physical Education ..... 4
Major and related work ..... 42
Electives to make a total of ..... 124

These requirements are described in detail below. Descriptions of courses can be found under "Courses of Instruction, Trinity College and the Woman's College" on pages 72-1 t6 of this Bulletin.

English Composition, 6 s.h.-This requirement is met by the completion of English 1-2. Students who demonstrate proficiency in English usage may be allowed to substitute a course in English literature for English 1.

Foreign Language, 6 to 18 s.h.-This requirement is met by the completion of the third college year of a foreign language. The languages which meet this requirement are French, German, Greek, Latin, Spanish. The number of courses required depends on previous training and ability as shown on placement tests. Students presenting for entrance four units of Latin may, however, satisfy the language requirement by the completion of the third coilege year of Latin or by two years of Greek. In exceptional cases, on the recommendation of the language department concerned and with the approvai of the Dean, a student who has completed the second college year of one language may satisfy the requirement by the completion of the first year of another language.

Natural Science, 11 s.h.-To satisfy this requirement a student must complete a laboratory course ( $8 \mathrm{~s} . \mathrm{h}$.) in one of the natural sciences (botany, chemistry, geology, physics, zoology), and one course of at least 3 semester hours selected from mathematics (except Mathematics 1), logic and scientific methodology (Philosophy 48, 104, and 242), or from the sciences listed above.

Religion, 6 s.h.-To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 101, 103, 114, 181, 182, 183, or Philosophy 99.

Social Science and History, 12 s.h.-(a) Students who present for entrance two acceptable units of history can satisfy this requirement by 12 semester hours chosen from History 1-2, or 51-52, Economics 51-52, Education 84.

105, Political Science 61-62, Psychology 91-92. or Sociology 91-92. Six of the 12 semester hours must be taken in economics, history, political science, or sociology. (b) Students who do not present for entrance two acceptable units of history must take History 1-2, or 51-52, and 6 semester hours selected from the other social sciences named in (a).

Literature, Music, Art, and Philosophy, 6 s.h.-This requirement can be satisfied by a total of 6 semester hours in courses in English or American literature, foreign literature courses numbered above 100, literature courses in translation, courses in aesthetics, art, music, or Philosophy 91, 93, or 94.

Physical Education, 4 s.h.-In Trinity College physical education is required during each of the first two years and is normally completed by the nd of the sophomore year: in the Woman's College it is required during the first three years and is normally completed by the end of the junior year.

Major and Related Work, 42 s.h.-Prior to registration in the spring of his sophomore year, each student is required to choose his major field and confer with his departmental adviser on the requirements for major and related work.

The major work consists of 18 to 24 semester hours in one department exclusive of courses open primarily to Freshmen.* The choice of courses must be approved by the major department. The related work must be taken in at least two other departments and is selected subject to the approval of the major department and the Dean; it may not include more than one course of 6 or 8 semester hours open primarily to freshmen. Courses satisfying the uniform course requirements may also be counted toward the requirements in major and related work. Information on specific departmental requirements for major and related work can be found in the section "Courses of Instruction" (pages T2-1+6), and several programs of study designed as preparation for professions are given in the next section.

The total amount of work that a student may take in any one department toward the Bachelor of Arts degree is limited to a maximum of 36 semester hours. In the Department of Aesthetics, Art, and Music, and the Department of Philosophy, the Department of English, the Department of Economics and Business Administration, and the Department of Romance Languages, a total of 54 semester hours is permitted, provided a total of not more than 36 semester hours is taken in any one division of the department.

Electives.-In addition to the uniform courses required and major and related work, other courses must be completed to make a total of at least 12+ semester hours, including 4 semester hours of physical education.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the Dean of the college.

## CHOICE OF A MAJOR FIELD

The requirement of 42 semester hours in a major field is based primarily on the belief that some advanced study in one subject, together with related work in allied subjects, is a valuable part of a general education. The selection of a major field usually depends on a student's cultural or vocational interests.

## GENERAL PROGRAM

The General Program is designed for the student whose primary interest is in one of the liberal arts subjects. The subjects in which major

[^16]work is offered are: art, botany, chemistry, economics, education, English, French, geology, German, Greek, history, Latin, mathematics, music, philosophy, physics, political science, psychology, religion, sociology. Spanish, zoology.

## SPECIALIZED PROGRAMS

The student who has chosen a vocation may wish to include specialized training in his program. The following programs of study in preparation for various professions or professional schools are outlined for the guidance of the student.

## BUSINESS

The student who plans to engage in some form of business may choose his major work in economics or he may take the following specified courses to satisfy the requirements for the major and related work.

Freshman Year: Economics 11 (recommended but not required), Mathematics 5 and 16.
Sophomore Year: Economics 51-52, Economics 57-58, Political Science 61-62.
Junior and Senior Years: Economics 138, Economics 143, Economics 144, Economics 153, Economics 171-172 or Economics 105 and 158, Economics 181-182, Economics 189. Three hours of the economics courses shown in Economics Major Section B.

In addition to the courses specified above, 9 semester hours from other courses in the Department of Economics and Business Administration must be elected.

A student planning to take the examination to qualify as a Certified Public Accountant may, with the permission of the Department of Economics, substitute courses in accounting (including Economics 184) for courses 11, 138, 144, 189, and for 3 semester hours of the electives in Section B (p. 90).

## RELIGIOUS WORK

A student who plans to enter the ministry or other religious work should have a broad liberal arts training. He may major in religion or any other subject. It is suggested that the student include in his program as many as possible of the following courses.

Freshman Year: Religion 1-2, History 1-2.
Sophomore Year: Religion ( 6 s.h.), Economics 51-52 or Political Science 6162, English Literature ( 6 s.h.).
Junior Year: Religion (6 s.h.), Psychology 91-92, English 151-152.
Senior Year: Religion (6 s.h.), Sociology (6 s.h.), Philosophy (6 s.h.). SOCIAL WORK
The student who plans to pursue professional studies in preparation for social work (such as family welfare, child welfare, public welfare, probation and parole and similar forms of neighborhood and community
work) should take his major work in sociology, with related work in other social sciences. The following courses should be included:

History 1-2, or 51-52.
Economics 51-52.
Political Science 61-62.
Psychology 91-92.
Philosophy (6 s.h.).
Zoology is recommended for the required course in Natural Science. Electives should be chosen mainly from history, economics, political science, education, sociology, philosophy, psychology, or religion.

## TEACHING

The program for students who intend to teach is designed to prepare for positions both in the elementary school and in the high school. All prospective teachers, regardless of the type of school in which they expect to teach, (a) must take a sequence of four basic courses in the Department of Education, namely. Education 84, 88, 103, and 118: (b) should read carefully the certification requirements of the state in which they plan to teach and should arrange their programs with their departmental adviser accordingly; and (c) should begin early the required sequence of courses in education, taking Education 84 and/or 88 first, preferably in the first semester of the sophomore year.

High School Teaching. Students may meet certification requirements by qualifying in one teaching subject, but they are strongly advised to choose their electives to meet requirements in two teaching subjects. In any case their programs must include courses in education and in other subjects sufficient to satisfy the certification requirements of the state in which they will teach. Courses in materials and methods should be reserved for the senior year: and courses in observation and practice teaching may be taken only in the senior year.

Elementary School Teaching. Students preparing to teach in the elementary school must complete the following specific requirements: Education 142, History 91 or 92, and Political Science 63 or 61-62, Economics 115-116. Music 151, Physical Education 102. and Health Education 112. Education 101-102 (which includes observation and practice teaching) should be reserved for the senior year.

PREPARATION FOR GRADUATE SCHOOL
The student who plans to enter a graduate school of arts and sciences for advanced study should consult an adviser in the field of the proposed adranced study concerning suitable preparation. Most graduate schools have definite requirements in foreign languages for all students. Candidates for the degree of Doctor of Philosophy are required to pass reading examinations, usually in German and French. In some cases other languages may be substituted. As soon as practicable, the student should ascertain the requirements of the particular graduate school he desires to enter.

## PREPARATION FOR LAW SCHOOL

Students who plan to study law may select their major work in any field. The following courses are recommended:

Economics 51-52, 57-58.
English 55-56.
History 1-2 or 51-52, 105-106.
Philosophy 48 and 91.
Political Science 61-62.
Sociology 91-92.
Advisers for the pre-legal students are: Mr. Frank de Vyver, Mr. J. H. Hallowell, and Mr. W. B. Hamilton.

PREPARATION FOR MEDICAL OR DENTAL SCHOOL
Students planning to enter a medical or dental school should select the following foundation courses for the study of medicine:

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Chemistry 1-2, 61, 151-152.
English 55-56.
Nathematics 5, 6.
Physics 51-52.
Zoology 1-2, 53.
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Pre-medical and pre-dental students may take their major work in a single department, or they may satisfy the requirement for the major and related work by the completion of at least 13 semester hours chosen from the following courses in addition to the 48 semester hours of foundation courses above:

Botany 101 or Zoology 110.
Chemistry 70.
Mathematics 51, 52.
Physics 101-102.
Psychology 91-92.
Zoology 92, 171.
Other science courses numbered above 100 may be substituted for these with the approval of an adviser for the pre-medical group and the Dean. When the major work is in science, electives in social sciences or humanities are recommended. It is advisable to choose German or French as the foreign language. Each pre-medical student should ascertain the requirements and recommended courses of the medical school that he expects to attend.

Advisers for the pre-medical students are: Mr. C. C. Hatley, Mr. Mychyle W. Johnson, and Mr. Charles K. Bradsher.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE

For graduation with the degree of Bachelor of Science, the following course work must be completed in accordance with the academic regulations as stated on pages 161-165 of this Bulletin.
Uniform Course Requirements ..... s.if.
English Composition ..... 6
French and German (second college year) ..... 12-24
Mathematics ..... 6
Natural Science ..... 8
Economics, History, or Political Science ..... 6
Religion ..... 6
Physical Education ..... 4
Major and related work ..... 48
Electives to make a total of ..... 124

These requirements are described below. Descriptions of courses can be found under "Courses of Instruction, Trinity College and the Woman's College" on pages 72-146 of this Bulletin.

English Composition, 6 s.h.-This requirement is met by the completion of English 1 and 2. Students who demonstrate proficiency in English usage may be allowed to substitute a course in English literature for English 1.

French and German.-Bachelor of Science candidates must complete at least the second college year, or equivalent as determined by examination, of both French and German.

Mathematics, 6 s.h.-This requirement may be met by completion of Mathematics 5 and 6 .

Natural Science, 8 s.h.-This requirement can be satisfied by courses in one of the natural sciences, namely, botany, chemistry, geology, physics, and zoology. The courses must include laboratory work, and may not be counted as part of the major or related work.

Economics, History, or Political Science, 6 s.h.-A student who does not present for entrance two acceptable units of history (exclusive of other social work) must take a course in history ; otherwise, he has his choice of economics, history, or political science. The courses that will satisfy this requirement are listed under "Courses of Instruction."

Religion, 6 s.h.-To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 101, 103, 114, 181, 182, 183, or Philosophy 99.

Major and Related Work, 48 s.h.-Major and related work consists of 48 semester hours in the Natural Sciences. This work must be selected from the departments of botany, chemistry, geology, mathematics, physics, psychology, and zoology. The major work consists of not less than $2+$ semester hours in one department, the choice of courses being subject to the approval of the department. The major work does not include courses primarily open to freshmen. The related work is taken in at least two other departments and is selected subject to the approval of the major department. It may not include more than one course primarily open to freshinen. A minimum of 14 semester hours of related work is required, 8 hours of which must be in lab-
oratory science. Further information concerning the requirements for the major and related work in the various departments will be found under "Courses of Instruction" ( pages 72-146).

Electives.-In addition to the above, the student must elect sufficient courses to complete, with an average grade of "C," the 124 semester hours necessary for graduation.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the Dean of the college.

The total amount of work that a student may take in any one department toward the Bachelor of Science degree is limited to a maximum of 40 semester hours.

On or before the date announced for the spring registration, every sophomore in this group should select his major department in the Natural Sciences and arrange, under the guidance of an adviser in the major department, his program of studies for the following year. He should obtain the adviser's written approval of all courses selected in the division hefore submitting his program to the Dean for final action. In like manner, each upperclassman will recheck the courses in his division of concentration each year with a representative of his major department.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING

See page 150 of this Bulletin.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING EDUCATION

The requirements for the degree of Bachelor of Science in Nursing Education are designed to prepare qualified graduate nurses for administrative, teaching, and supervisory positions in schools of nursing and in nursing service agencies.

To be eligible for admission to Duke University as a candidate for this degree a student must meet the following requirements:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit. (See specific requirements for admission to Trinity College and the Woman's College.)
2. Graduation from an approved school of nursing which provides satisfactory preparation in medical, surgical, pediatric, and obstetric nursing, as a minimum.
3. Satisfactory scores on specified tests.
+. Supervisory ratings from three individuals, preferably former teacher: and supervisors with whom the individual has had fairly recent contact.

Credit for 120 semester hours (exclusive of physical education) on which an average grade of at least "C" is made is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. The program of studies leading to this degree must include:

> S.H.

1. Minimum general education requirements................. 38-50

May be taken at Duke University or at any accredited college or university.
English 1-2 .................................................... . 6
Natural science ....................................................... 8
History, economics, or political science ......... ...... 6
Sociology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .3-6
Psychology ......................................................... . . . .6-6
Electives ........................................................ 12-18
Literature, art, music, religion, ethics, language are suggested.
2. Basic Nursing Program .........................maximum t)

May be taken at the Duke School of Nursing or at any approved school of nursing. The amount of credit which is granted tor the nursing school program is determined on an individual hasis.
3. Courses in Education and Nursing Education ........... 20

88 Psychological Foundations of Modern Education ... 3
84 N Social Foundations of Nursing Education ........... 3
101 N The Curriculum of the School of Nursing ...........
$115 \mathrm{~N}-116 \mathrm{~N}$ Nursing Education: Principles and Practices... 8
117 Community Nursing Service-Seminar in Field Trips $\quad$ of Conmunity Agencies ............................
4. Field of Concentration .................................... 15

Fifteen semester hours in one field, such as chemistry, physics. psychology, sociology, zoology, or in a clinical area and related subjects. No freshman work may be included in these 15 semester hours.
5. Professional Experience

One year of experience as a graduate nurse is required before the degree is awarded.

## COMBINED ACADEMIC-PROFESSIONAL COURSES

The provision whereby a senior may elect the work of the first year in a professional school of the University shall apply solely to eligible students in Trinity College or the Woman's College. The privilege of completing a combined course for the degree is conditioned upon admission to the professional school at the close of the junior year. A student thus admitted registers as a senior in the College and as a first-year student in the professional school.

## ACADEMIC-LAW COMBINATION

A student who has completed, with an average grade of " C " or higher, 96 semester hours of undergraduate work, including the uniform course requirements for the degree of Bachelor of Arts and the work of the junior year in his major and related fields, may, with the approval of the Dean of the College, transfer to the Duke University School of Law and be eligible for the degree of Bachelor of Arts from Duke University upon the satisfactory completion therein of the work of the first year.

It is understood that this provision shall apply solely to eligible undergraduates who have completed three years in residence in Duke University, and that not less than the full first-year's work of the Law School will be acceptable for credit towards the bachelor degree.

No single discipline or program of study can be described as the best preparation for the study of law. There are various methods of approach to legal study. Students differ with respect to the undergraduate studies by which they profit most in preparing themselves for law school.

Completion of the undergraduate work necessary to qualify for the Academic-Law Combination does not insure admission to the Duke University School of Law, nor impose any restriction whatever upon its freedom in selecting students for admission.

The first-year program of the Law School will include in 1950-1951 the following courses:

|  | Fall Semester s.h. | Spring Semester <br> S.H. |
| :---: | :---: | :---: |
| Chattel Transactions | 2 | 2 |
| Contracts | 3 | 3 |
| Estates in Land | - | 3 |
| Research and Writing | 1 | 1 |
| Torts (including some Procedure) | 2 | 3 |
| Legislation | 3 | - |
| Business Associations I (Agency, |  |  |
| Partnership, Introduction to |  |  |
| Corporations) |  | 2 |
| Criminal Law | 3 |  |
|  | 14 | 14 |

Students wishing further information are invited to consult with the Dean of the School of Law.

## ACADEMIC-FORESTRY COMBINATION

A student who has completed with an average grade of "C" or higher the program of study given below may, with the approval of the Dean of the College, transfer to the School of Forestry and be eligible for the degree of Bachelor of Science from Duke University upon the satisfactory completion of one year's work. It is understood that this provision shall apply solely to eligible undergraduates who have completed three years in residence in Duke University. The professional degree of Master of Forestry may be obtained on the satisfactory completion of an additional year in the School of Forestry.

The program of studies in preparation for admission to the School of Forestry is divided into four parts: (1) a group of studies required of all students: (2) courses required in a selected division of concentration: (3) additional elective courses sufficient to make a total of at least 92 semester hours of credit; and (4) summer field work in surveying and forest mensuration as described below.

The studies required of all students, of which the first four, together with 6 semester hours of a language, should ordinarily be taken in the freshman year, are as follows:
S.H.
Botany 1-2 ..... 8
Chemistry 1-2 ..... 8
English 1-2 ..... 6
Engineering Drawing 1-2 ..... 4
Modern Foreign Language* ..... 12-18
Mathematics 5, 6 ..... 6
Physics 1-2 ..... 8
Economics 51-52 ..... 6
Geology 51 ..... 4

At the end of the freshman year each student shall select a division of concentration. One of the following programs of concentration is recommended:

Botany. Botany 52, 151, 156, one additional course in Botany and Zoology 1.
Chemistry. Chemistry 61, 70, and 151-152; and Botany 151.
Economics. Economics 60, two additional semester courses in economics, and Political Science 61-62.
A student who does not select one of the above programs must complete the work of the junior year in his major and related fields.

Summer field work is required of all students in the School of Forestry. This program of 13 weeks, preferably to be taken upon completion of the junior year, includes Civil Engineering S110 (Plane Surveying), 4 s.h.; Forestry S150 (Forest Surveying), 5 s.h.; and Forestry S151 (Forest Mensuration), + s.h.

Completion of the first three ycars of work toward the Bachelor of Science degree does not insure admission to the Duke University School of Forestry, nor impose any restriction whatever upon its freedom in selecting students for admission.

[^17]Students wishing information concerning admission to the School of Forestry are invited to consult with the Dean of that School.

## ACADEMIC-NURSING COMBINATION

A student who graduated from the Duke University School of Nursing in September, 1947, or thereafter, with an average grade of "C" or better, may, upon recommendation of the Dean of the School of Nursing, apply for admission to the Woman's College of Duke University. If accepted, she may obtain the degree of Bachelor of Arts or Bachelor of Science by fulfilling the requirements of either degree.

Forty semester hours of credit toward the 120 semester hours (exclusive of physical education) required for the Bachelor’s degree are allowed for the three-year nursing program. At least 30 semester hours, of which 24 semester hours must be in courses numbered 100 or above, must be taken in residence in the Woman's College. An average grade of "C" or better is required for all work.

The program of studies leading to the degree of Bachelor of Arts must include:
S.H.

1. Uniform Course Requirements ..... 47-59
English 1-2 ..... 6
Language (completion of the third college year) ..... 6-18
Natural Science ..... 11
Religion ..... 6
Social Science and History ..... 12
Literature, Music, Art, and Philosophy ..... 6
2. Basic nursing program ..... 40
3. Field of concentration ..... 12
At least 12 semester hours in one department other than nursing in courses not primarily open to freshmen .. ..... 12
4. Electives ..... 9-21

To be eligible for the degree of Bachelor of Science, a student must complete the course of study outlined under the Requirements for the Degree of Bachelor of Science.

## COURSES OF INSTRUCTION TRINITY COLLEGE AND THE WOMAN'S COLLEGE

Note: Courses primarily for freshmen are numbered from 1 to 49; those primarily for sophomores are numbered from 50 to 99; those primarily for juniors and seniors from 100 to 199; those primarily for semiors and gradnates from 200 to 299. The amount of credit for cach course is given in semester hours following the description of the course.

The designation (w) or (E) indicates that the course is to be gizen on the West Campus or on the East Campus. The designation e means Engineering; L, Laze; Ds, Divinity School. When this designation precedes a course mumber, the course is not approved for graduate credit.

Odd-mumbered courses are offered in the fall semester, and cven-numbered courses are offered in the spring semester. Double numbers indicate that the course is a year-course and must normally be contimued throughont the year if credit is received. A student must secure zeritten permission from the instructor in order to reccive credit for either semester of a year-course.

COURSES OPEN PRIMARILY TO FRESHMEN

Air Science 1-2
Art 1-2
Botany 1-2
Chemistry 1-2
Economics 11, 12
Education 1
English 1-2
French 1-2, 3-4
German 1-2, 3-4
Greek 15
Health Education 41
History 1-2

Latin 1-2, 3, 4
Mathematics $1,5,6,15,16$
Music 1-2, 11-12, 47-48
Naval Science 101, 102
Philosophy 48, 49
Physical Education 1, 2
Physics 1-2
Political Science 21-22
Religion 1-2
Spanish 1-2, 3-4
Zoology 1-2

## AESTHETICS, ART, AND MUSIC

IROFESSOR KATHARINE E. GILBERT, CHAIRMAN; ASSISTANT PROFESSOR SUNDERLAND, DIRECTOR OF UNDERGRADUATE STUDIES IN ART; ASSOCIATE PROFESSOR HALL, SUPERVISOR OF FRESHMAN INSTRUCTION IN ART; ASSISTANT PROFESSOR JULIA W. MUELLER, DIRECTOR OF UNDERGRADUATE STUDIES IN MUSIC; ASSISTANT PROFESSOR BONE, SUPERVISOR OF FRESHMAN INSTRUCTION IN MUSIC; ASSISTANT PROFESSORS JENKINS, KLENZ, MARKMAN, AND EARL MUELLER; MRS. SAVILLE, MR. SIBLEY, AN゙D MR. WITHERS

## AESTHETICS

## FOR SENIORS $\Lambda$ ND GRADUATES

201-202. The Philosophy of Art.-Analysis with the aid of examples of general terms used in the discussion of art. Reference to recent aesthetic theories. 5 s.h. (E)

Professor Gilbert
213-214. History of Aesthetics.-Theories of art and beauty from Pythagoras to Croce. 6 s.h. (E)

Professor Gilbert

## ART

1-2. History of Art.-An introductory course for freshmen, designed to help the new student in relating the different manifestations of art in each period to the civilization that produced them. Open to freshmen only. 6 s.h. (E)

Associate Professor Hall

51-52. History of Art.-An historical survey of the development of architecture, sculpture, and painting as material manifestations of the culture of the western world from Egypt to modern times. Open to upperclassmen who have not had Art 1-2 or 61-62. 6 s.h. (e \& w) Assistant Professor Markman

53-54. Theory of Representation and Design.-A study of the basic elements in art and the principles of their organization, with reference to pure and representational forms in historical and contemporary usage. No previous experience in drawing and painting is required. One lecture and four laboratory hours. Open to students who are enrolled in, or have completed, a year-course in the Department. 6 s.h. (E)

Assistant Professor E. Mueller, Mr. Sibley
55-56. Art Laboratory.-A course in drawing and painting or design, as elected by the student. Individual and class criticism of student work, with investigation and discussion of contemporary developments in painting and design. Four laboratory hours. Open to students who are enrolled in, or have completed, a year-course in the Department. Prerequisite: Art 53-54, or consent of the instructor. 4 s.h. (E)

Assistant Professor E. Mueller, Mr. Sibley
61-62. Architectural History and Design.-An introductory course in the historic development of architectural principles, and their application to elementary problems of design. No previous experience in freehand or technical drawing is required. Two lectures and three laboratory hours. Open to upperclassmen who have not had Art 1-2 or 51-52; and occasionally to freshmen who present to the instructor evidence of special preparation. 6 s.h. (E)

Associate Professor Hall


#### Abstract

94. American Art.-A study of the formation of a cultural tradition in the United States as seen through examples of architecture, sculpture, and painting, with some reference to the minor arts of furniture, silver, and glass. $3 \mathrm{~s} . \mathrm{h}$. (E)

Assistant Professor E. Mueller, Mr. Sibley


101. Mediaeval Architecture.-A survey of Christian architecture in the Near East and Eastern and Western Europe from the beginnings of the mediaeval style in the late classical period to its disintegration in the fifteenth century. 3 s.h. (E)

Assistant Professor Sunderland
102. Mediaeval Painting and Sculpture.-A study of painting and sculpture in Western Europe from the late classical period through the fourteenth century: 3 s.h. (E)

Assistant Professor Sunderland
103. Renaissance and Baroque Architecture: Italy.-Architectural patronage of the great families and the Church, as evidenced by the works of individual designers from Brunelleschi through Michelangelo and Palladio to Borromini. 3 s.h. (E)

Associate Professor Hall
104. Renaissance and Baroque Architecture: Spain and the North.-An inquiry into the extension of Italian Renaissance and Baroque influence in architecture, and its modification under local conditions elsewhere in Europe. 3 s.h. (E)

Associate Professor Hall
105. European Architecture since 1700.-An analysis of the sources of contemporary European architecture in the historic revival styles and counterrevolts, technical invention and new structural materials, industrial expansion and social planning. 3 s.h. (E)

Associate Professor Hall
106. Architecture of the Americas.-A study of building in the Western Hemisphere from the Precolumbian cultures to the present with emphasis on the architecture of the United States since the Revolution. 3 s.h. (E)

Associate Professor Hall
110. English Architecture.-The English home, church, and community, studied as the architectural reflection of continental influences, independent developments in the British Isles, and colonial expansion. This course is intentionally directed toward the interests of students majoring in history or literature. 3 s.h. (E)

Associate Professor Hall
123. Renaissance Painting: Italy.-A study of Italian painting, mainly in Florence, from the end of the fourteenth through the fifteenth century. 3 s.h. (E) Assistant Professors Jenkins and Sunderland
124. Baroque Painting: Italy.-An analysis of the character and tendencies of seventeenth-century painting in Italy. 3 s.h. (E)

Assistant Professors Jenkins and Sunderland
125. Renaissance Painting: The North.-A study of painting in the Netherlands in the fifteenth and sixteenth centuries. 3 s.h. ( E ) Assistant Professors Jenkins and Sunderland
126. Baroque Painting: The North.-A study of the character and tendencies of seventeenth-century painting in Spain, France, and the Lowlands in the seventeenth century. 3 s.h. (E)

Assistant Professors Jenkins and Sunderland
127. Renaissance and Baroque Sculpture: Italy.-A study of Italian sculpture of the fifteenth, sixteenth, and seventeenth centuries. 3 s.h. ( E ) Assistant Professors Jenkins and Sunderland
130. Painting since 1700.-An investigation of the development of painting from the eighteenth century through Picasso. 3 s.h. (E) Assistant Professors Jenkins and Sunderland
150. Survey of Painting.-A history of painting from prehistoric times to the present day intended primarily for students who are not majors in the department. Open to upperclassmen who have not had Art 1-2 or 51-52. Offered each semester. 3 s.h. (e) Assistant Professors Jenkins and Sunderland

157-158. Advanced Laboratory in Art.-Emphasis is given to the techniques of various painting and design media. Four laboratory hours. Prerequisite: Art $55-56.4$ s.h. (E)

Assistant Professor E. Mueller, Mr. Sibley
215. Religious Art of the Ancient Near East.-A specialized study of the development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part of Syria and Palestine, to the Persian conquest. 3 s.h. (w)

Assistant Professor Markman
216. Religious Art of the Classical World.-A specialized study of the religious art, particularly architecture and sculpture, of Greece and Rome, with special emphasis on the monuments in the Near East. 3 s.h. (w)

Assistant Professor Markman
217. Aegean Art.-A study of the problems of Aegean art as the forerunner of Greek art and in relation to the contemporary civilizations of the eastern Mediterranean world. 3 s.h. (w) Assistant Professor Markman
218. Early Greek Art.-A study of the problems of the origin and development of Greek art in the Geometric period to the end of the Archaic. 3 s.h. (w)

Assistant Professor Markman

## DEPARTMENTAL MAJOR IN ART

Prerequisite: Art 1-2 or 51-52 or 61-62.
Major Requirements: Art 53-54, and 18 additional semester hours in the Department.

MUSIC
THEORY
11-12. Fundamentals of Music (Theory I).-The elements of harmony. rhythm, and form; the visual and aural recognition of scales, intervals, triads, and seventh chords, and their functions in relation to the system of tonality; harmonization of melodies; development of rhythmic discrimination. Designed for those students who wish to pursue a more technical study of music. Three lectures and two laboratory hours. Open to freshmen only. 8 s.h. (E)

Assistant Professor Klenz
61-62. Fundamentals of Music (Theory I).-An amplification of Music 11-12. Open to upperclassmen who have not had Music 11-12. 8 s.h. (E) Assistant Professor Klenz

73-74. Harmony and Smaller Forms (Theory II).-A continuation of Mlusic 11-12, plus analysis and composition of the smaller forms; further development of proficiency in harmonization; continuation of aural training; introductory study of counterpoint. Prerequisite: Music 11-12 or 61-62. 6 s.h. (E)

Assistant Professor Klenz
117-118. Advanced Harmony and Counterpoint (Theory III).-A continuation of Music 73-74. Emphasis upon development of technical and expressive means and stylistic treatment by practical work in composition, and analysis and observation of larger forms; further study of counterpoint. The completion of an original large form composition for chamber group, chorus, or orchestra. Prerequisites: Music 11-12 or 61-62, and 73-74. 6 s.h. (E)

Assistant Professor Klenz
121. Conducting.-The conducting of orchestral and vocal scores. Scorereading and analysis, principles of interpretation, establishment of vocal and instrumental conductorial techniques leading to practical experience in conducting the departmental musical organizations in rehearsal. Participation in or regular weekly observation of a musical organization is required laboratory work beyond the three lecture periods. Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h. (e) Assistant Professor Bone
122. Orchestration.-A study of the technical characteristics and transpositions of the instruments of the modern symphony orchestra and conceri band. Study of standard orchestration texts. Instrumentation of piano scores or original compositions for string, woodwind, and brass ensembles and for full symphony orchestra or concert band. Arrangements to be played by departmental musical organizations in rehearsal. Participation in or regular weekly observation of an instrumental organization is required laboratory work beyond the three lecture periods. Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h. (e) Assistant Professor Bone
125. Piano Ensemble.-The study and performance of classical and contemporary two-piano repertoire and the piano concerto. The reading of standard symphonies and overtures arranged for four hands. Emphasis on ensemble principles: rhythm, phrasing, balance. Prerequisites: Music 11-12 or 61-62, and 73 , or consent of the instructor. 1 s.h. (E)

Mr. Withers

## HISTORY AND CRITICISM

1-2. Introduction to Music.-Rhythm, melody, harmony, form. The instruments of the orchestra and their use. Orchestral, chamber, choral, and operatic music of the Classic and Romantic periods. Designed for those students who wish to acquire a general appreciation of Music. Open only to freshmen who do not plan to major in Music. 6 s.h. (E)

Mr. Withers
51-52. Introduction to Music.-Content the same as for Music 1-2, but with more emphasis upon individual work. Open to upperclassmen who have not had Music 1-2. 6 s.h. (e) Assistant Professor J. Mueller

81-82. History of Music.-An historical survey of the evolution of music from ancient times to the present. An elementary study of the basic principles of form and of musical aesthetics to serve as a basis of criticism. Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. Either semester may be taken for credit. 6 s.h. (e) Mrs. Saville

131-132. Orchestral Literature.-The historical background and development of music for the orchestra. A critical and analytical study of orchestral suites, overtures, concerti, symphonies, and symphonic poems from early instrumental combinations of the seventeenth century to the present. Prerequisites: Music $1-2$ or 51-52, or consent of the instructor. Either semester may be taken for credit. 6 s.h. (E)

Assistant Professor Bone
135. Piano Literature.-A comprehensive survey of the great works for keyboard instruments, from the time of the English virginal composers to the present. Prerequisites : Music 1-2 or 51-52, or consent of the instructor. $3 \mathrm{~s} . \mathrm{h}$. (E)

Mr. Withers
137. Chamber Music.-A study of form, style, and interpretation of masterpieces of chamber music. Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. 3 s.h. (e) Assistant Professor J. Mueller
138. Contemporary Music.-A critical survey of contemporary stylistic trends and theory in the light of their twentieth-century background. Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. 3 s.h. (E)

Assistant Professor Klenz
141-142. Choral Literature.-A survey of choral styles from the Renaissance to the present. A critical analysis of representative sacred and secular forms such as the motet, mass, oratorio, cantata, madrigal, and opera. Prerequisites: Music 1-2 or 51-52, or 81-82, or consent of the instructor. Either semester may be taken for credit. 6 s.h. (E)

Mrs. Saville

## MUSIC EDUCATION

101-102. Vocal Methods.-A study of materials and methods of teaching vocal music and appreciation in public schools; emphasis on music-reading, the changing voice, part-singing, integration of music within the general school curriculum. Elementary, intermediate grades studied first semester; junior senior high levels, second semester. Designed primarily for Music Education majors. Prerequisites: Music 11-12 or 61-62, or consent of the instructor. 6 s.h. (E)

Mrs. Saville
103-104. Instrumental Methods.-A study of materials and methods of teaching instrumental music in the public schools; emphasis on instrumental pedagogy, organization, and administration of the junior and senior high school instrumental curriculum. Designed primarily for Music Education majors. Prerequisites: Music 11-12 or 61-62, or consent of the instructor. 6 s.h. (E)

Assistant Professor Bone
106. Piano Methods and Materials.-A study of the materials and methods of piano pedagogy. The appropriate choice of essential and supplementary literature. Development of technique, style, and musicianship. Supervised practice teaching. Prerequisites: Music 11-12 or 61-62, or consent of the instructor. 3 s.h. (E)

Mr. Withers
151-152. Fundamentals of Music for Education Students.-Primarily designed for students who desire to qualify for the State Teaching Certificate. Treatment of the child voice, materials and methods of music teaching in the first six grades; music-reading, elementary theory and form. Open to upperclassmen who have not had Music 11-12 or 61-62. Either semester may be taken for credit. 6 s.h. (E)

Mrs. Sayille

## APPLIED MUSIC

Members of the Department offer instruction in the following media: A. Piano; B. Strings; C. Woodwinds; D. Brass.

A student who plans to take Applied Music should consult with the appropriate faculty member as early as possible before registering for the course offered in his chosen medium at his class level. His proficiency before registration is tested by audition and rated as Grade I-VIII. Upon satisfactory completion of the course his proficiency is again rated, and his Grade recorded as a Roman numeral following the course number; e.g., a freshman who passes the first semester course in Piano with a proficiency rating of Grade VI is recorded as having completed Music 47A-VI, a senior who passes the first semester course in Violin with a proficiency rating of Grade II is recorded as having completed Music 197B-II, and so on. This is in addition to the customary letter-grades recorded for students in all courses.

47A-48A. Piano.-Freshmen only. 2 s.h. (e) Mrs. Saville, Mr. Withers 97A-98A. Piano.-Sophomores only. 2 s.h. (E) Mrs. Saville, Mr. Withers 147A-148A. Piano.-Juniors only. 2 s.h. (e) Mrs. Saville, Mr. Withers
197A-198A. Piano.-Seniors only. 2 s.h. (e) Mrs. Saville, Mr. Withers 47B-48B. Strings.-Freshmen only. 2 s.h. (E)

Cello: Assistant Professor Klenz
Violin, Viola: Assistant Professor J. Mueller
97 B-98B. Strings.-Sophomores only. 2 s.h. (e)
Cello: Assistant Professor Klenz
Violin, Viola: Assistant Professor J. Mueller
147B-148B. Strings.-Juniors only. 2 s.h. (E)
Cello: Assistant Professor Klenz Violin, Viola: Assistant Professor J. Mueller
197B-198B. Strings.-Seniors only. 2 s.h. (E)
Cello: Assistant Professor Klenz
$47 \mathrm{C}-48 \mathrm{C}$. Woodwinds.-Freshmen only. 2 s.h. (E)
Assistant Professor Bone
97C-98C. Woodwinds.-Sophomores only. 2 s.h. (E)
Assistant Professor Bone
147C-148C. Woodwinds.-Juniors only. 2 s.h. (e)
Assistant Professor Bone
197C-198C. Woodwinds.-Seniors only. 2 s.h. (E)
Assistant Professor Bone
47D-48D. Brass.-Freshmen only. 2 s.h. (e) Assistant Professor Bone 97D-98D. Brass.-Sophomores only. 2 s.h. (E)

Assistant Professor Bone
147D-148D. Brass.-Juniors only. 2 s.h. (e) Assistant Professor Bone
197D-198D. Brass.-Seniors only. 2 s.h. (e) Assistant Professor Bone
Requirements and Credits: One semester hour of credit is allowed for $1 / 2$ hour of private instruction per week and a minimum of one hour of practice daily, under the particular conditions specified below, and in accordance with standard university practice in grading proficiency. For any number of semester hours of credit in Applied Music, an equal number of hours must be taken in Music Theory or Music History.

Majors in Music Theory must earn 7 semester hours credit in Applicei Music. Credit may be reckoned from Grade I.

Majors in Music History and Criticism must earn 8 semester hours credit in Applied Music. Credit may be reckoned from Grade 1.

Majors in Music Education must earn 7 semester hours credit in Applied Music, as follows:

General (Choral) majors:
Major medium, reckoned from Grade III.-5 s.h.
Minor medium, reckoned from Grade I.-2 s.h.
Instrumental majors:
Major medium, reckoned from Grade III.-5 s.h.
Minor medium, reckoned from Grade I.-2 s.h.
Piano proficiency through Grade II.
Students other than Music Majors may receive not more than 8 semester hours credit for work in Applied Music. Credit may be reckoned from Grade I.

Fees per Semester: Fees for instruction in Applied Music include rental of practice facilities sufficient to meet the credit requirements. They are payable to the Treasurer's Office of Duke University at the beginning of each semester, as follows:

One $1 / 2$ hour lesson per week for 15 weeks................... . $\$ 10.00$

## Either

One hour's daily use of cubicle with piano................... 15.00
Or
One hour's use daily of cubicle without piano................ . 10.00.
DEYARTMENTAL MAJOR IN MUSIC
Prercquisitc: Music 11-12 or 61-62.
Major Requircments: Music 81-82, and 22 additional semester hours in the Department. The major student will select, in consultation with his Departmental Adviser, a sequence of Music courses emphasizing (a) theory, or (b) history and criticism, or (c) education. or (d) the use and understanding of a particular medium.

## DEPARTMENTAL ORGANIZATIONS

Students taking Applied Music are urged by the Department to participate in one or more of the following departmental organizations:

Duke University Symphony Orchestra
Duke University Chamber Orchestra
Duke University Concert Band
Duke University Madrigal Singers

## AIR SCIENCE

IROFESSOR SWITZER, COLONEL, USAF ; ASSISTANT PROFESSOR RAMBFIUU, LIEUTENANT COLONEL, USAF; ASSISTAN゙T PROFESSOR BAIRD, MAJOR, USAF; AND ASSISTANTS

Eligibility Requirements.-All physically qualified freshmen who are citizens of the United States and are enrolled in Trinity College or the College of Engineering are eligible to enroll in the Air Force ROTC (Engineering students see College of Engineering). Veterans with one year or more of military service may be exempted from the freshman and sophomore courses (AS 1-2 or 11-12, AS 51-52 or 61-62).

Air Force ROTC Courses.-Trinity College students pursuing the program will specialize in general administration and supply. Students in the College of Engineering will specialize in Air Installations. The courses are established by the United States Air Force and are approved by the College as electives for all undergraduates. Field or laboratory instruction in leadership, drill and exercise of command is included as a part of all courses to indoctrinate the student in the fundamental principles of command.

## ADMINISTRATION AND SUPPLY

AS 1-2. Principles and Problems of National Defense.-In the first semester the potential air officer is taught the physical structure and functions of the Armed Forces, national and world military policies and the history and foundations of national power. The second semester is devoted to Military Psychology, Personnel Management, Evolution of Warfare, Maps and Aeriai Photographs, First Aid and Hygiene. 4 s.h. (w)

Staff
AS 51-52. Applied Air Power and Elementary Air Force Administration.This course coyers during the first semester the development and use of military aircraft, air navigation, and weather; and in the second semester teaches the use of records for an Air Force organization and the administration of an Air Force base. Prerequisite: AS 1-2 or equivalent. 4 s.h. (w) Staff

AS 101-102. Air Force Administration and Supply.-The course in general administration and supply includes instruction in the basic functions oi administrative and supply officers; records, expenditure of funds, transportation and special administrative responsibilities. Prerequisites: AS 1-2 and 51-52 or equivalent. 8 s.h. (iv)

Staff

## AIR INSTALLATIONS

AS 11-12. Principles of National Defense and Introduction to Aero-nautics.-This is an introductory course in the physical structure and functions of the armed forces and the fundamentals of aeronautics. During the first semester the student deals with the national military policies, organization of the armed forces and the influence of geographical and historical problems. The second semester is devoted to maps and aerial photographs, military psychology and personnel management, and aeronautics. 6 s.h. (w) Staff

AS 61-62. Applied Air Power and Elements of Air Installations.-During the first semester the principles of military logistics and administration, military teaching methods, and air force management are taught. The second semester is devoted to air operations and the functions and organization of the air installations office. Prerequisites: AS 11-12 or equivalent. 6 s.h. (w)

Staff
AS 111-112. Air Installations and Maintenance Engineering.-Th's is the first year of the advanced course in air science for engineering students and is applied to specialized instruction in the field of installation and maintenance engineering. The first semester covers the construction of bases and landing fields, roads, railroads and sewage disposal plants; the disposal of refuse and the control of insects and rodents. The second semester is allotted to fire prevention and crash rescue, electrical facilities, water supply, and preventive maintenance. Prerequisites: AS 11-12 and 61-62 or equivalent. 8 s.h. (w)

Staff
AS 211-212. Advanced Air Installations.-Not offered in 1950-1951. Prerequisites: AS 11-12 and 61-62 or equivalent, AS 111-112. 2 s.h. (w) Staff

## BOTANY

PROFESSOR BLOMQUIST, CHAIRMAN ; PROFESSOR OOSTING, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR ANDERSON, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSOR ADDOMS, SUPERVISOR OF FRESHMAN INSTRUCTION (WOMAN'S COLLEGE) ; PROFESSORS HARRAR, KRAMER AND WOLF; ASSOCIATE PROFESSOR PERRY; MR. WARREN ; AND ASSISTANTS

1. General Botany.-An introduction to the structure and life-processes of seed plants and the environmental factors influencing their distribution. Laboratory, discussions, and field trips. Three two-hour periods. 4 s.h. (W \& E)

STAFF
2. General Botany.-A survey of the plant kingdom with emphasis on reproduction and an introduction to identification. Three two-hour periods. Prerequisite: Botany 1. 4 s.h. (w \& E)

Staff
51. Culture and Propagation of Plants.-Experimental studies of the processes involved in growth, and the application of this knowledge to the selection, growth, and propagation of plants. Prerequisite: one year of botany. 4 s.h.

Professor Addoms
52. Plant Identification.-Practice in the identification of local plants, especially flowering plants, and a study of the principles and rules underlying plant classification. Laboratory, lectures, and field trips. Prerequisite: one year of botany. 4 s.h. (w) Professor Blomquist
55. Morphology and Anatomy of Vascular Plants.-A comparative study of representative ferns and seed plants, including vegetative and reproductive structures. Prerequisite : one year of botany. $4 \mathrm{~s} . \mathrm{h}$. (w) Professor Oosting
101. Principles of Heredity.-The basic principles of heredity and their significance. Lectures, three hours; laboratory, two hours; conference (attendance optional), one hour. Laboratory work includes experimental breeding of the fruit fly. May be taken as a lecture course without laboratory. Prerequisite: one (high-school or college) course in biology, botany, or zoology. High-school or college algebra recommended. 3 or 4 s.h. (w)

Associate Professor Perry
103. General Bacteriology.-A study of the morphology and fundamental physiological processes of bacteria; their relationship to sanitation, public health, soil fertility and food preservation. Prerequisite: one year of botany or zoology, or equivalent. 4 s.h. (w), first semester; (e) second semester. Mr. Warren
104. The Structure and Identification of Lower Plants.-A study of representative examples of algae, fungi, mosses and liverworts, including collection, identification, and classification of common forms. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. (w) Associate Professor Anderson
151. Introductory Plant Physiology.-The principal physiological processes of plants, including water relations, synthesis and use of foods, and growth phenomena. Prerequisite: Botany 1, 2 or equivalent; one year of chemistry recommended. 4 s.h. (w) Professor Kramer
156. Plant Ecology.-The principal factors affecting plants and plant communities as they exist in different environments. Laboratory, lectures, and field trips. Prerequisites: Botany 1, 2 and 52, or equivalent. 4 s.h. (w)

Professor Oosting
202. Genetics.-The principles of heredity, their cytological basis, and their bearing on other fields of biology. Laboratory work involves experimental breeding of the fruit fly and interpretation of data from the breeding of plants. Offered in alternate years. Prerequisites: one year of botany or zoology, or equivalent, and college algebra. 4 s.h. (w)
203. Plant Cytology.-A study of the structure and organization of plant cells in relation to growth, reproduction, and especially heredity. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. (w)

Associate Professor Anderson
204. Advanced Plant Anatomy.-The structure of vegetative and reproductive organs of seed plants. Physiological and ecological implications of structure are stressed. Offered in alternate years. Prerequisite: Botany 55 or equivalent. 4 s.h.

Professor Addoms
216. Botanical Microtechnique.-Studies in methods of preparing temporary and permanent microscopical slides; theory of staining; the use of the microscope, especially microscopical measurements; drawing, and photomicrograply, botanical photography, and lantern slides. Prerequisite: two semesters of botany. 4 s.h. (w)

Associate Professor Anderson
221. Structure and Classification of Fungi.-Prerequisite: two semesters of botany. 4 s.h. (w)

Professor Wolf
222. Physiology and Ecology of Fungi.-Prerequisite: Botany 221 or equivalent. 4 s.h. (w) Professor Wolf

225-226. Special Problems.-Students with adequate training may do special work in the following fields:
a. Bacteriology, Mycology, and Plant Pathology. • Professor Wolf
b. Cytology.

Associate Professor Anderson
Professor Oosting
Associate Professor Perry
d. Genetics.
e. Morphology and Anatomy of Higher Groups.

Professors Adnoms, Harrar, and Oosting
f. Morphology and Taxonomy of Lower Groups.

Professor Blomquist and Associate Professor Anderson
g. Physiology.
h. Plant Microchemistry.

Professors Kramer and Addoms
Professor Addoms
i. Taxonomy of Higher Groups.

Professor Blomquist
j. Senior Seminar.-1 s.h. (w)

Staff
252. Advanced Plant Physiology.-The physicochemical processes and conditions underlying the physiological processes of plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 4 s.h. (w)

Professor Kramer
255. Advanced Taxonomy.-A study of the historical background of plant taxonomy, modern concepts and systems of classification, nomenclatorial problems and the taxonomy of specialized groups. Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h. (w) Professor Blomquist
256. Field Ecology.-An ecological survey of local vegetation including theory and practice in the use of instruments for precise habitat studies, and analysis of community and successional relationships. Offered in alternate years. Prerequisites: Botany 1, 2, and 52 or equivalent. 4 s.h. (w)

Professor Oosting

## FOREST BOTANY

224. Forest Pathology.-Special reference to diseases of forest trees. Prerequisites: Botany 1, 2. 3 or 4 s.h. (w) Professor Wolf
225. Dendrology.-Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h. (iv)

Professor Harrar
Related courses which may be counted toward a major in botany. Zoology 110. Introduction to Genetics. 2 s.h. (iv) Assistant Professor Johnson

## DEPARTMENTAL MAJOR

Prerequisites: Botany 1 and 2.
Major Kequirements: A minimum of 21 hours of work including courses 52, 55, and 104 . The remaining hours may be selected from any other courses in the Department for which the student is eligible, subject to the approval of the Departmental Adviser. All majors are expected to register for Senior Seminar for one semester of their senior year.

## CHEMISTRY

PROFESSOR SAYLOR, EXECUTIVE OFFICER AND DIRECTOR OF U'N゙DERGRADUATE STUDIES. ASSOCIATE PROFESSOR HILL, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSORS BIGELOW, GROSS, HAUSER, LONDON AND VOSBURGH; ASSOC1ATE PROFESSORS BRADSHER, BROWN AND HOBBS; DRS. STROBFL AN゙D WILDER; MR. POWELL AND ASSISTANTS

1-2. General Inorganic Chemistry.-Lectures, recitations, and laboratory work on the elementary principles of chemistry and on the occurrence, preparation, properties, and uses of the elements and their compounds. One lecture, two recitations, and three laboratory hours, throughout the year. 8 s.h. (w \& E) Associate Professor Hill; Associate Professors Bradsher, Hobbs and Brown: Drs. Strobel and Wilder: Mr. Powell; and Assistants
61. Fundamentals of Analytical Chemistry.-A study of the reactions of electrolytes in solution and of chemical equilibrium illustrated by laboratory experiments involving the techniques of gravimetric, volumetric, and colorimetric analysis. One lecture, one recitation and six laboratory hours. Prerequisites: Chemistry 1-2, and Mathematics 6 or equivalent. 4 s.h. (w)

Professors Saylor and Vosburgh; Associate Professor Hobbs;
Drs. Strobel and Wilder; Mr. Powell: and Assistants
70. Quantitative Analysis.-A study of the theory and technique of inorganic gravimetric and volumetric analysis. One lecture, one recitation, and six laboratory hours. Prerequisite: Chemistry 61. 4 s.h. (w)

Professors Saylor and Vosburgh; Associate Professor Hobbs:
Drs. Strobel and Wilder ; Mr. Powell; and Assistants
131. Advanced Quantitative Analysis.-A second course in the theory and technique of inorganic analysis with special reference to the analysis of complex materials. One lecture and six laboratory hours. Prerequisite: Chemistry 70. 3 s.h. (w) Professors Vosburgh and Saylor and Assistaxt

151-152. Organic Chemistry.-An introduction to the study of the compounds of carbon. Both the aliphatic and the aromatic series are dealt with and the lectures are illustrated by selected laboratory experiments. Two lectures, one recitation, and three laboratory hours. Prerequisite: Chemistry 61. Course 151 is prerequisite for 152.8 s.h. (w)

Professors Bigelow and Hauser; Associate Professors Bradsher
and Brown: Dr. Wilder; and Assistants
206. Elements of Theoretical Chemistry.-A course in general theoretical chemistry for students who do not present credit in calculus. Credit is not given for both 206 and 261-262. Three recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics, 0 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h. (w)

Professor Saylor and Associate Professor Hobbs
215-216. Advanced Inorganic Chemistry.-A study of modern theories of valence and molecular structure; also of inorganic compounds, particularly the less common types, illustrated by suitable laboratory preparations. Prerequisites: Chemistry 70, 151-152, and 261-262. 6 s.h. (w)

Professor Vosburgh and Associate Professor Hill
233. Instrumental Analysis.-Experiments in the use of physical measuring instruments in chemical analysis with special attention to optical instruments. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and one year of physics. 2 s.h. (w) Associate Professor Hobbs; Professors Vosburgh and Saylor
234. Physico-Chemical Methods of Analysis.-Discussion of physicochemical principles as applied to methods of instrumental analysis, illustrated by lahoratory experiments, with emphasis on methods involving electrical techniques. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and 261-262; the latter may be taken concurrently. 2 s.h. (w)

Assoclate Professor Hobbs; Professors Vosburgh and Saylor
236. Theory of Analytical Chemistry.-A study of such topics as precision and errors, theories of precipitation and titration, oxidation and reduction, and others, illustrated by typical analytical methods. One lecture. Prerequisites: Chemistry 70 and 261-262. 1 s.h.

Professor Vosburgh
251. Qualitative Organic Analysis.-Systematic identification of organic compounds, including a study of solubilities and classification reactions. One lecture and six laboratory hours. With permission of the Director of Graduate Studies, graduate students may take three hours of laboratory work instead of six and receive 2 semester hours credit. Prerequisites: Chemistry 70 and 151152. 3 s.h. (w)

Professor Hauser and Assistant
252. Advanced Organic Preparations.-A laboratory course including experiments of a more difficult type than those required on the elementary level, accompanied by oral discussions of the techniques and theories involved, and designed to round out the student's knowledge of fundamental organic processes. Three or six laboratory hours. Prerequisites: Chemistry 70 and 151152. 1 or 2 s.h. (w) Associate Professor Brown and Professor Bigelow

253-254. Advanced Organic Chemistry.-Discussion of the theories of organic chemistry with special reference in the first semester to the mechanism of reactions and in the second semester to the synthesis of some of the more complex compounds such as vitamins. hormones, and alkaloids. Undergraduates are admitted to this course only by permission of the Director of Undergraduate Studies. Prerequisites: Chemistry 70 and $151-152.4$ s.h.

Professors Bigelow and Hauser
261-262. Physical Chemistry.-Fundamentals of general theoretical chemistry illustrated by selected laboratory experiments. Two recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Plysics 51-52 or 1-2 and Mathematics $51-52$ or equivalent. 6 s.h.

Assoclate Professor Hobbs and Professor Saylor

275-276. Research.-The aim of this course is to give instruction in methods used in the investigation of original problems. It is open to seniors by permission of the Director of Undergraduate Studies. Nine hours a week and conferences. 3 or 6 s.h. (w)

Professors Bigelow, Gross, Hauser, London, Saylor, Vosburgh; Associate Professors Bradsher, Brown, Hill, and Hobbs

## DEPARTMENTAL MAJOR

A. For the degree of A.B.

Prerequisites: Chemistry 1-2, Mathematics 6 s.h.
Major Requircments: Chemistry 61, 70, 151-152, and an additional 6 or 7 s.h., which may be satisfied by $261-262$ or by 206 together with 2 or 3 s.h. selected from courses 131, 233, and 251. The related work must include one year of Physics.
B. For the degree of B.S.

Prerequisites: Chemistry 1-2, Mathematics 6 s.h.
Major Requirements: Chemistry 61, 70, 131, 151-152, 234, 251, 261-262. The related work must include Mathematics 51-52 and one year of Physics.

## ECONOMICS AND BUSINESS ADMINISTRATION

PROFESSOR HOOVER, CHAIRMAN ; PROFESSOR DE VYVER, DIRECTOR OF UNDERGRADUATE
STUDIES; PROFESSORS BLACK, HUMPHREY, RATCHFORD, SMITH, SPENGLER, AND VON BECKERATH ; ASSOCIATE PROFESSORS HANNA, LANDON, LEMERT, MACMILLAN, SHIELDS, AND SIMMONS ; ASSISTANT PROFESSORS ASHBROOK,

JOERG, MCKENZIE, AND SAVILLE; MESSRS. BRANDIS, DICKENS, EASTMAN, EMMA, HULL, HYLDBURG, MCCLAIN, MANSFIELD, AND SCHALLER

The courses offered by the Department are listed under two divisions, Economics and Business Administration.

In general, the Economics courses aim to develop in the student such critical and analytical skills as underlie the ability to understand economic problems and institutions, both in their contemporary and in their historical setting. While no particular vocational or professional goal is emphasized, these courses furnish the academic background necessary for many positions in industry, for work in the economic branches of government service, and for graduate study in economics and the social sciences.

Courses in Business Administration, although more concerned with general principles than with specific applications, stress in greater measure than courses in Economics the knowledge and techniques useful to students definitely preparing for business careers. The student who majors in Business Administration may elect courses in accountancy, business law, and related work sufficient to qualify for admission to C.P.A. examinations.

## ECONOMICS

12. American Economic Institutions.-A survey of the main economic factors, trends, and institutions in the development of American society, including such topics as the economics of the frontier, the economic basis of regionalism, tariff policies, imperialism, capital accumulation, monopoly, modern technology and mass production, labor movements, and corporate enterprise. 3 s.h. (w)

Professor Smith

## 51-52. Principles of Economics.-6 s.h. (E \& w)

Staff
This course must be passed by all students planning to elect further courses in Economics and Business Administration.

One section of Economics 51 will be offered during the spring semester, and one section of Economics 52 will be offered during the fall semester.
103. Transportation.-Essential features, problems, and competitive positions of rail, highway, air, and inland-water transportation, with most emphasis on rail transportation. Special attention is given to the economic significance of transportation, and to cost factors, rates and their economic effects and regulations. 3 s.h. (w)

Associate Professor Landon
107. Conservation.-A study of the extent and distribution of our natural resources and their service in regional and national development. Emphasis will be placed upon both the natural and human factors involved in the genesis of current problems. Term reports dealing with problems of special interest to those participating will be considered. 3 s.h. (w)

Associate Professor Lemert
132. The Economic History of the United States.-A study of the agricultural, industrial, commercial, and financial progress of the United States from colonial times to the present day. 3 s.h. (w)

Professor Smith
138. Business Statistics.-A survey of the principal statistical methods and their application to economics and business administration. The material is also of interest to those specializing in engineering, forestry, political science, and sociology. The course deals with collection of statistical data, construction of statistical tables and charts, and a brief study of the fundamental statisticai concepts and techniques. Prerequisite: Mathematics 5 or the equivalent. Offered both semesters. 3 s.h. (w)

Associate Professor Hanna
Open to juniors and to sophomores in the second semester. Not open to seniors except with the permission of the Director of Undergraduate Studies.
139. Advanced Business Statistics.-This course is designed for students who wish more thorough preparation in statistics, either for use in business or to meet civil service requirements. Special emphasis is placed on index numbers, time series analysis, and correlation methods. Prerequisite: Economics 138 or the equivalent. $3 \mathrm{~s} . \mathrm{h}$. (w)

Associate Professor Hanna
152. Global Geography.-The subject matter involves resources patterns and world affairs, geonomic problems, geocultural problems, and geographic factors affecting geopolitical questions. No prerequisite. 3 s.h. (w)

Associate Professor Lemert
153. Money, Credit and Banking.-This course begins with a study of the nature, characteristics, and functions of money: credit, and the commercial hanking system. It covers also the history of commercial banking in the United States; the foundation, organization, and functions of the Federal Reserve System: the supervision and control of commercial banks; deposit insurance; and the ralue of money. 3 s.h. (w)

Associate Professor Simmons; Professor Ratchford; Assistant Professors Ashbrook and Saville
155. Labor Problems.-An examination of present-day labor problems followed by an intensive study of methods used by emplovers and workers in meeting those problems. 3 s.h. (w)

Professor de Vyyer
161. European Economic Problems.-This course deals with the losses and economic dislocations of the war, the problem of developing a new pattern of intra-European and world trade, the effort to stabilize prices, expand investments and production, and the effect of economic planning and controls. 3 s.h. (w)

Professor Humphrey
169. Economics of Consumption.-Economic problems of the family. Factors determining choice; commercial and legal standards for consumers' goods; consumer credit and co-operation; income and standards of living. 3 s.h. (E)
186. Latin-American Economics.-Facts and factors in the economic structure and growth of the Latin-American nations; population, labor productivity, and standards of living; problems of industry, agriculture, and mining ; transportation and public utilities; monetary and fiscal policies; the migration of capital ; economic thought and institutions. 3 s.h. (w) Professor Smith
187. Public Finance.-This is a general course in the principles of public finance. It covers the constitutional, economic, and administrative aspects of public revenues, public expenditures, public debts, and intergovernmental fiscal relations. Special attention is given to current trends and problems. 3 s.h. (w)

Professor Ratchford
189. Business and Government.-This course deals with the economics of public policy regarding such matters as business combinations, corporate organizations, industrial price policies, marketing practices, economic planning, cartels, and similar problems of governmental regulation of business. 3 s.h. (w)

Professor Humpirey; Assistant Professor Ashbrook
199. Economic Analysis.-A study of the theory of price and output with particular attention to the effects of imperfect competition. 3 s.h. (w)

Assistant Professor McKenzie
204. Advanced Money and Banking.-Structure and functioning of the monetary and banking mechanism. Presupposes a thorough grounding in the field. Particular attention is given to significant areas involving issues of economic policy. Primary emphasis is placed upon the underlying basis of monetary management and upon its implementation by the central banking authorities. 3 s.h. (w)

Associate Professor Simmons
215. Economic Systems.-A study of alternative economic systems. In addition to an analysis of communism, anarchism, and the variants of socialism, the course will include a consideration of other proposed modifications of the existing economic order. Particular attention is given to an analysis of the Soviet economic system. 3 s.h. (w) Professor Hoover
216. Economic Functions of the State.-A consideration of the primary and secondary economic functions of government and of the legislation which provides for the performance of these functions. Prerequisite: Economics 215 or its equivalent. 3 s.h. (w)

Professor Hoover
217. Population Problems and Resources.-Survey of population theory and policy. Study of national and international trends in population-growth and resource-use, together with analyses of their economic and social implications. 3 s.h. (w)

Professor Spengler
218. Business Cycles.-A study of the various types of cyclical movements in industry, with special emphasis on cycle theory and methods of controlling or modifying business cycles. 3 s.h. (w)

Professor Humphrey
231. Economic History of Europe.-The economic development of Europe from medieval times to the present, treating such topics as the guilds, mercantilism, money, banking. crises, the Industrial Revolution, the interrelationships of government and business, and the economic consequences of war. 3 s.h. (w)

Professor Smith
233. State and Local Finance.-A study of expenditures, taxation, and financial administration in state and local governments with emphasis on current problems. Special attention will be given to research methods and materials and to the financial relations between state and local governments. Prerequisite: Economics 187 or consent of instructor. 3 s.h. (w)

Professor Ratchyord
234. Federal Finance.-A study of the expenditures, revenues, and financial administration of the government of the United States, with emphasis on current problems. Special attention given to budgetary procedure, corporate
and individual income taxes, and the financial relations between Federal and state govermments. Prerequisite: Economics 187 or consent of instructor. 3 s.h. (w)

Professor Ratchford
236. Taxation and Government Finance.-A basic course in public finance for advanced students. Primary emphasis is placed on taxation and tax policy, with consideration also of government expenditures, financial administration, intergovernmental fiscal relations, and public debts. Readings in texts, monographs, and source materials will be supplemented by lectures, class discussions and reports on special topics. Not open to students who have received credit for Economics 187 or equivalent. 3 s.h. (w)

Professor Ratchford
237-238. Statistical Methods.-A study of statistical methods appropriate for dealing with problems in business and the social sciences. In addition to developing more thoroughly the subjects considered in Business Statistics, the following methods will be considered: simple, multiple, partial, and curvilinear correlation; curve fitting ; probability; frequency distributions; and reliability of estimates. Prerequisite: Economics 138 or consent of the instructor. 6 s.h. (w)

Associate Professor Hanna
241-242. Value and Distribution.-This course is a critical survey of the leading contemporary explanations of price formation and of the determination of interest, rent, wages, and profits. 6 s.h. (w) Professor Spengler
245. Problems of Modern Industrialism.-Description and analysis of the growth of modern industrialism, of the structure and operation of large scale industry, of the inter-relations of industrial, political, and legal development, and of the implications for industry of the modern welfare state. 3 s.h. (w)

Professor von Beckerath
256. Labor Legislation.-A study of the relations of the state to labor problems with special reference to remedial legislation and to interference in labor disputes. Prerequisite: Economics 155, or with the consent of the instructor. 3 s.h. (w)

Professor de Vyver
260. Social Insurance.-A consideration of the economic and social problems involved in workmen's compensation laws, unemployment insurance, oldage pensions, and health insurance for workers. Particular attention will be given to the present Federal and state social security legislation. 3 s.h. (w)

Professor de Vyver
265. International Trade and Finance.-A study of the fundamental principles of international trade and foreign exchange. Subjects covered will include international specialization, balance of payments, foreign investments, tariffs and commercial policies, exchange control, exchange rates, and international monetary problems. 3 s.h. (w)

Mr. Eastman
268. Competitive versus Monopolistic Enterprise.-A study of monopoly and imperfect competition as disturbances of a free, self-regulating market economy in an individualistic democratic political system; of the possibilities of public and private action respecting the preservation of these systems; and of the implications of planning and public welfare policies. 3 s.h. (w)

Professor von Beckerath
280. Advanced Economic Problems.-This course is designed to afford students an opportunity to integrate the economic principles which they have acquired in specialized courses, through the application of these principles to current economic problems. Not open to graduate students. 3 s.h. (w)

## BUSINESS ADMINISTRATION

A. ACCOUNTANCY

57-58. Principles of Accounting.-Elementary principles of single proprietorship, partnership, and corporation accounting. Supervised laboratory periods will be assigned. 6 s.h. (w)

Staff
60. General Accounting.-A one semester course in accounting principles designed for economics majors and other non-business administration students who desire some understanding of basic accounting concepts. This course is required of economic majors who do not take Course $57-58$. It must be taken in the sophomore or junior year. Students may not receive credit for both Course 60 and Course 57-58. 3 s.h. (w) Professor de Vyver; Mr. Emma

171-172. Advanced Accounting.-Advanced accounting theory and practice applied to the managerial problems of valuation and operation in corporations, consolidations, mergers, and liquidations. Open to students who have completed Economics 57-58. 6 s.h. (w)

Associate Professor Shields
173-174. Auditing, Theory and Practice.-This course prepares the manager to investigate the operation of his own business, the prospective investor to determine the value of the proposition, the student to practice the public accounting profession. The first semester deals with detail and balance sheet audits and the second semester with special investigations. Problems, working papers, and reports. Prerequisite: Economics 171-172 and permission of the department. 6 s.h. (w)

Associate Professor MacMillan
175-176. C. P. A. Review.-Thorough practice in classroom to prepare candidates for the Certified Public Accountant examination. The object is to train students to apply accounting principles and to work in classroom under substantially the same conditions as in the examination room. Practical accounting problems, auditing analysis and theory of accounts. Prerequisite: Economics 171-172 and permission of the department. 6 s.h. (w)

Professor Black
177. Income Tax Accounting.-A study of the accounting principles involved in the management of business enterprise under the requirements of Federal income tax laws. Practice is given in the preparation of tax returns. Prerequisite: Economics 171-172 or permission of the instructor. 3 s.h. (w) Associate Professor Shields
178. Accounting Systems.-The design and installation of accounting systems and the presentation of accounting reports to management in basic manufacturing industries, mercantile establishments, financial institutions, and municipalities. Prerequisite: Economics 171-172 or permission of the instructor. 3 s.h. (w)

Associate Professor Shields
180. Government Accounting.-Accounting principles and methods used in the control and administration of governmental units. Emphasis is placed upon state, county, and municipal governments. Prerequisite: Economics 57-58 and permission of the instructor. 3 s.h. (w) Associate Professor Shields

275-276. Advanced Industrial Accounting and Management.-This course traces the ways and means of executive control through statistics and industrial accountancy. Emphasis is put upon the economics of overhead costs. A complete practice set of cost accounting is worked by each student during the course. Prerequisite: Economics 171-172 and permission of the department. 6 s.h. (w)

Professor Black; Assistant Professor Joerg

## B. COMMERCE AND INDUSTRY

11. Economic Geography.-A course in regional economic geography embracing the study of the world's major geographic regions, their present and potential production of food and raw materials for manufacture, and the relationships between these factors and the development of manufacturing industries, cities, and commerce. Offered both semesters. 3 s.h. (E \& w)

Associate Professor Lemert
105. Industrial Management.-A study of the organization and management of industrial production, with emphasis upon the principles governing location and plant design, the planning and control of materials and methods, and general price policies. Offered both semesters. 3 s.h. (w)

Associate Professor Landon
109. The Economic Geography of Latin America.-This course involves comprehensive study of the resources and people of Mexico, the West Indies, and Central and South America. Special emphasis is placed upon the possibilities and limitations of increases in trade between the United States and the leading Latin-American countries. 3 s.h. (w) Associate Professor Lemert
115. Fundamentals of Geography.-A study of geographic influences consisting of location, maps and their interpretation, climate topography, soils, minerals, bodies of water, plants, animals, and the works of man. This course is required of all students in Teaching Group, Class B, and is also recommended for those intending to specialize in foreign trade or the diplomatic service. 3 s.h. (E)

Associate Professor Lemert
116. Principles of Economic Geography.-A study of the economic resources of the world; the products of the agricultural and manufacturing industries: trade routes and trade centers; and influence of geographic factors on the economic development of nations. This course is required of all students in Teaching Group, Class B, and is also recommended for those intending to specialize in foreign trade or the diplomatic service. Prerequisite: Economics 115. 3 s.h. (E)

Associate Professor Lemert
118. Economic Geography of the South.-A study of the agricultural, commercial, and industrial development, with special emphasis upon the expansion of Piedmont industries. 3 s.h. (w)

Associate Professor Lemert
120. Economic Geography of the Pacific.-The physical influences, natural resources, and economic activities of Asia, Oceania, and portions of the western coasts of North and South America with special emphasis upon their relationship to present developments. 3 s.h. (w)

Associate Professor Lemert
143. Corporation Finance.-Principles and problems in the financial organization of corporations; the study of corporate securities, the management of capital, the distribution of earnings ; industrial combinations; insolvency and reorganization. Offered both semesters. 3 s.h. (w)

Though not a prerequisite, Economics 57-58, Principles of Accounting, or Economics 60, General Accounting, are recommended to students electing this course.
144. Investments.-A study of the investment policies of individuals and institutions; the securities markets; sources of investment information and data; the analysis and interpretation of financial statements. Prerequisites: Economics $57-58$ or 60 , and 143. 3 s.h. (w) Assistant Professor Joerg
158. Insurance.-The development and basic principles of insurance. This course covers such topics as business uses, policy contracts, costs, and regulation of insurance. Life and fire insurance are emphasized. Offered both semesters. 3 s.h. (w)

Assistant Professor Saville
168. Marketing.-The topics covered in this course include the economic importance of markets and the marketing system; marketing functions, organization, and methods, price policies; finance; speculation; market research and the plaming of marketing activities; co-operative marketing; criticism of marketing and means for improvement; and regulation. 3 s.h. (w)

Associate Professor Landon
181-182. Business Law.-The fundamental principles of law as applied to common business transactions. The topics presented are: contracts, agency, bailments, sales, negotiable instruments, partnerships, corporations, and bankruptcy. For seniors. 6 s.h. (w)

Mr. Hyldburg
184. Commercial Law for Accountants.-A review and summation of commercial law principles as they apply to accounting thcory and practice. Emphasis will be placed upon the commercial law sections of the Certified Public Accountant cxaminations. Students are admitted to the course by permission of the instructor. For seniors. 3 s.h. (w)

Professor Black; Mr. Hyldburg
188. Personnel Management.-A study of the fundamental principles and problems of labor management and of collective bargaining under modern industrial conditions and under existing labor legislation. Prerequisite: Economics 155.3 s.h. (w)

Professor de Vyver

## DEPARTMENTAL MAJOR

A major in cconomics requires the following election of courses:

## A

Economics 51-52. Principles of Economics.
Economics 60, or 57-58. Principles of Accounting.
Economics 138. Business Statistics.
Economics 153. Money, Credit and Banking.
Mathematics 5.

## B

Eighteen semester hours in junior and senior courses in cconomics (not business administration) of which six semester hours are restricted to the following group of courses :

Economics 199. Economic Analysis.
Economics 204. Monetary and Banking Theory.
Economics 215. Economic Systems.
Economics 217. Population Problems.
Economics 218. Business Cycles.
Economics 231. Economic History of Europe.
Economics 234. Federal Finance.
Economics 245. Modern Industrialism.
Economics 256. Labor Legislation.
Economics 265. International Trade.
Students majoring in Economics are restricted by the general Faculty Regulation which limits course work in Economics and Business Administration to 54 semester hours with not over 36 semester hours in either of the department's subdivisions "economics" and "business administration."

## EDUCATION

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PROFESSOR PROCTOR, ACTING CHAIRMAN; PROFESSOR CARR, DIRECTOR OF UNDER-
    GRADUATE STUDIES; ASSOCIATE PROFESSOR EASLEY, SUPERVISOR OF FRESHMAN
        INSTRUCTION; PROFESSORS CHILDS AND NAHM; ASSOCIATE PROFESSORS
            BOLMEIER, RUDISILL ANS STUMPF; ASSISTANT PROFESSORS INGLES
                                    AND MOSER; AND ASSISTANTS
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Courses in the Department of Education are designed for two groups of students: (1) students with teaching experience or others who have definitely chosen teaching as their life-work, and (2) students who desire to study the school as an outstanding social institution. The courses listed in Nursing Education are for students preparing to teach in schools of nursing.

Students who do not expect to teach but merely desire an understanding of the school as part of a liberal education are advised to elect such courses as $54,84,88$, and 105 for their introductory work in the Department and then to
elect further work in accordance with their special interests. Students who expect to teach in the public schools should plan their courses in accordance with the general regulations set forth under "Teaching" on page 63 of this catalogue. All prospectice teachers must cnroll in courses 84 and 88, preferably before their junior ycar, and are then required to complete courses 103 and 118 before taking cither 101-102 or 115-116 in their senior jear.

1. Orientation in Study and Study Habits.-A course for freshmen whose high-school and other records indicate the need for help in working out satisfactory study methods and in adjusting to college life. Note-taking from reading and lectures, time planning, remedial reading, and pertinent principles of the psychology of learning are among the matters considered. Either scmester. 3 s.h. (w)

Mr. Walton
6. A Laboratory Course in Reading.-A laboratory course for the improvement of the reading skills of students handicapped by reading deficiencies. Admission to the class is obtained through recommendation of a counselor. Two class periods per week, and individual conferences and practice as prescribed. (Non-credit.) (E)

Associate Professor Rudisill
54. Introductory Course in History of Education.-A study of the types of educational systems and institutions evolved in Western Europe and the United States as an introduction to current educational problems. 3 s.h. (E) [Not offered in 1950-51]
68. Mental Hygiene of the School Child.-A study of personality factors as related to the adjustment and success of the school child; the foundations of motivation ; typical problems of maladjustment; social heredity and its educational implications; variations in intelligence. Not open to students who have had Psychology 116. 3 s.h. (E)

Associate Professor Easley
84. Social Foundations of Education.-This course is the first of four intended to give the student a thorough survey of the place and function of education and an understanding of the school as a social institution. It is an introductory course emphasizing those historical, philosophical, and sociological factors which explain trends in American education. Either scmester. 3 s.h. (w \& E) Associate Professor Stumpf and Mr. Slay

Note: Courses 84, 88, 103, and 118 constitute a sequence of 12 hours in Education required of all prospective teachers. Students who intend to teach in the elementary school should confer with Professor Carr, and students who intend to teach in the secondary school should confer with Professor Childs, in order to work this sequence into their schedules. See courses under Nursing Education for modified sequence of courses for students preparing to teach in schools of nursing.
88. Educational Psychology: Learning and Measurement.-This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process; general principles or laws of learning; the course of learning and forgetting; factors influencing efficiency in learning and retention; and the transfer of training; and (2) measurement, including : the basic concepts in the measurement of intelligence; standardized achievement tests; the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. Either semester. 3 s.h. ( $\mathrm{E} \& \mathrm{w}$ )

Associate Professor Easley, Miss Farthing
See note following course 84.
101-102. Elementary Education: Principles and Practice.-The study of the nature, subject matter, and methods of elementary education. The course is designed to give prospective elementary teachers an understanding of basic principles and practices in the organization of instruction and of subject matter
for the primary and grammar grades of the public school. Students may elect primary or grammar-grade work, according to their special interests. A minimum of ninety clock hours of observation and supervised practice teaching is required. The specific problems which arise in the student teachers' experiences are treated in group and individual conferences. For seniors only. 8 s.h. (E)

Professor Carr and Assistants
A. Integrated Art in the Public School.-This course consists of three semester hours of work in materials and methods. (Required of all students intending to teach in the elementary school.) For juniors and seniors. (E) [Not offered in 1950-51]

Mrs. Mason
B. Industrial Art in the Public School.-This course consists of three semester hours of work in materials and methods. (Required of all students intending to teach in the elementary school.) For juniors and seniors. (E)
[Not offered unless as many as eight students enroll.] Mrs. Mason
103. Organization and Management of the School.-An introduction to the problems of school organization and administration which are of particular concern to the classroom teacher. Although federal and state control over education is briefly reviewed, the main consideration is the local school system. Considerable attention is given to the administration of teaching personnel, pupil persomel, and the program of studies. Either semester. 3 s.h. (E \& w) See note following course 84 .

## Associate Professors Bolmeier and Rudisill, and Professor Proctor

105. Introduction to Educational Sociology.-A study of the social forces, processes, and values affecting education, and the interaction of school and community. 3 s.h. (E)

Professor Childs
115-116. Secondary Education: Principles and Practice.-A study of the nature, scope, and methods of secondary education, emphasizing fundamentals of the teaching process and exemplifying theory by practice. A minimum of ninety clock hours of observation and supervised practice teaching is required. Students preparing to teach in the junior high school are permitted to concentrate in that field. Since practice-teaching facilities are limited, students with superior records avill be given preference in the practice teaching. For seniors only. 8 s.h. (E)

Professor Childs and Assistants
118. Educational Psychology: Psychological Development.-This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the developmental process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to students who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. Either semester. 3 s.h. (E \& w)

Associate Professor Easley
See note following course 84 .
128. Tests and Measurements in Personnel Work.-A critical study of the principles and techniques of measurement in industrial, social, and educational personnel work. The course attempts to serve three purposes: (1) to acquaint the students, as a matter of cultural interest, with the rapidly expanding field of personnel study; (2) to provide a basis of technical training to enable the student to develop himself professionally after he enters personnel work; and (3) to provide a basis for personnel vocational orientation. 3 s.h. (w)
132. Materials and Methods in Health Education.-Identical with Health Education 132. 3 s.h. (w)

Professor Aycock
136. The Teaching of High-School English.-Identical with English 142. For scniors only. 3 s.h. (e) Assistant Professor Jordan
142. Children's Literature.-Students enrolled will be allowed to specialize in literature of either the primary or the grammar grades. 3 s.h. (E) Professor Carr and Associate Professor Rudisill
166. Materials and Methods in Teaching Romance Languages.-Identical with Romance Languages 118. 3 s.h. (e) Associate Professor Davis
176. Materials and Methods in High-School Science.-Discussion based upon lectures and collateral reading of such topics as aims, tests for values, the curriculum, classroom procedure, course and lesson planning in secondary school science. Prerequisite: at least 18 hours of science in college. For seniors only. 3 s.h. (E) Professor Kramer
185. The Teaching of Religion and Ethics.-Identical with Religion 193; counts as elective in Education only for those students preparing to teach religion in secondary schools. 3 s.h. (w)

Associate Professor Crum
203. Principles of School Administration.-The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system, and the functions of the various school officials. Prerequisite: six semester hours in education. 3 s.h. (E)

Associate Professor Bolmeier
205. Curriculum Problems in Secondary Education.-A consideration of the aims and objectives of secondary school subjects, emphasizing practical problems of curriculum-making in the high school. 3 s.h. (E)
[Not offered in 1950-51]
Professor Childs
206. Sociological Foundations of the Secondary School Subjects.-A consideration of the aims and objectives of secondary school subjects, emphasizing problems of curriculum-making. Prerequisite: general sociology or approved work in education, including course 105. 3 s.h. (w) Professor Childs
207. Technique of Teaching.-An advanced course in the teaching process, dealing with the theory underlying sound technique and applied specifically to the work of the elementary school. 3 s.h. (E)

Professor Carr
[Not offered in 1950-51]
208A. Mental Tests and Applications.-A study of the development of intelligence testing, the concept of general intelligence, various recent applications of mental tests and training in the giving of individual tests. Prerequisite: course 258 or six semester hours of other work in educational psychology or psychology. First semester. 3 s.h. (e) Associate Professor Easley

208B. Mental Tests and Applications.-A continuation of course 208A intended to provide experience in the administration of mental tests and in the interpretation of data. Open only to students approved by the instructor. Second semester. 2 s.h. ( E )

Associate Professor Easley
209. Statistical Methods Applied to Education.-A study of statistical methods of treating educational and social data designed to enable teacher or administrator to interpret and use the results of scientific investigations in education. 3 s.h. ( E )

Associate Professor Easley
212. Psychology of the Elementary School Subjects.-A study of the psychology of learning as applied to teaching the common school subjects. 3 s.h. (E)

Professor Carr
[Not offered in 1950-51]
213. Problems in the Organization and Administration of the Elementary School.-A study of the work of the elementary school principal. 3 s.h. (E)

Professor Proctor
214. History of Education in the United States.-A study of the development of the American public school and the interaction of higher education and the public school. 3 s.h. (w)
[Not offered in 1950-51]
215. Educational and Vocational Guidance.-A survey of the literature on guidance with special reference to secondary education; a critical study of the principles and techniques used in guidance; an attempt to locate the problems most urgently in need of solution. Prerequisite: 12 semester hours in the Department, including course 105 or course 206. 3 s.h. (E)

Professor Childs
216. Psychological Principles of Secondary Education.-A study of adolescence and the psychology of learning as applied to teaching the principal highschool subjects. 3 s.h. (w)

Professor Chiliss
222. The Curriculum and Materials of the Elementary Grades.-A study of curriculum problems in the elementary schools. 3 s.h. (e) Professor Carr
[Not offered in 1950-51]
225. The Teaching of History and the Social Studies.-Identical with History 211. The course counts as an elective in the Department of Education only when approved by the Department and the instructor. 3 s.h. (w) Associate Professor Manchester
227. The Psychology of Learning: Problems.-The major problems related to the learning process will be examined, with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. 3 s.h. (e) Associate Professor Easley
228. The Psychology of Learning: Theoretical and Experimental.-This is a continuation of course 227 . In this semester the laws of learning, the most important explanatory principles, and the major systems of the psychology of learning will be considered. Class experiments will run throughout the semester. Prerequisite: course 227 or its equivalent. 3 s.h. (E)

Associate Professor Easley
232. Supervision of Instruction.-A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 3 s.h. (E)

Professor Carr
233. Administrative Pupil-Accounting.-An advanced study of gradation and classification of pupils, with incidental attention to the keeping of records and the making of reports. The study includes a consideration of individual differences, promotions, acceleration, and retardation of pupils : the various plans for classification and gradation; interpreting the results of tests; and some practice in the computation of statistical measures. 3 s.h. (e)
[Not offered in 1950-51]
Professor Proctor
234. Secondary-School Organization and Administration.--This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 3 s.h. (E)

Associate Professor Bolmeier
237. The Psychology and Teaching of Reading.-A study of the basic psychology of reading and of principles, methods, and materials for the derelopment of the various reading and study skills. Adapted to the needs of teachers of different grade levels. 3 s.h. (e) Associate Professor Rudisile
238. Remedial Reading-Principles and Practice.-A study of the basic causes of reading disability and of principles, methods, and materials for the diagnosis and correction of specific difficulties. The course provides practice
with grade school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six weeks' period. A basic course in the psychology or teaching of reading is prerequisite, or Education 237 may be taken simultaneously. 3 s.h. (e) Associate Professor Rudisill
244. Studies in the Historical Development of Public School Administra-tion.-An advanced course devoted to the development of public school administration in the South, with especial reference to North Carolina as a type. 3 s.h. (w).
[Not offered in 1950-51]
246. The Teaching of Mathematics.-Identical with Mathematics 204. The course counts as an elective in the Department of Education only when approved by the Department and the instructor. 3 s.h. (e) Professor Rankin
[Not offered unless enrollment justifies.]
247. Investigations in Arithmetic.-An analytical survey of investigations in arithmetic, with three purposes in view: (1) to examine the techniques employed with respect to their adequacy as means of solving the problems attacked; (2) to test the validity of the results amounced and the values of these results for the teaching of arithmetic; (3) to locate further problems in arithmetic in need of scientific research. 3 s.h. (E)
[Not offered in 1950-51]
253. Legal Phases of School Administration.-The primary purpose of this course is to familiarize prospective school administrators with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emplasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 3 s.h. (E)

Associate Professor Bolmeier
258. Educational Measurements.-A critical study of the principles and techniques involved in measurement in education, with opportunity for individual research. Prerequisite: 12 semester hours in the Department, including a course in educational psychology. 3 s.h. (E)
264. Recent Movements in American Education.-An intensive study of educational thought and practice since 1900. 3 s.h. (E)
[Not offered in 1950-51]

## NURSING EDUCATION

Students preparing for administrative, teaching, or supervisory positions in schools of nursing must take, in addition to other courses, substantially the same basic program of work in Education as do prospective secondary school teachers, namely, courses $84,88,103,115-116$, and 118. (Course 101 below is substituted for course 103 in this program.) Courses 84 N and $115-116 \mathrm{~N}$ are sections of courses 84 and 115-116, respectively, designed especially for nurses.)

84N. Social Foundations of Nursing Education.-A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and nursing education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 3 s.h. (E)

Professor Naim
101. The Curriculum in the School of Nursing.-The general principles of curriculum making and the factors which determine the content and organization of the nursing school curriculum are considered in this course. 3 s.h. (E)

Professor Nahm
$115 \mathrm{~N}-116 \mathrm{~N}$. Nursing Education: Principles and Practice.-A special section of Education 115-116. Principles of teaching applied to the nursing school situations and the planning and evaluation of instruction. Ninety hours of observation and of supervised teaching in the Duke University School of Nursing are required. Four hours of conference, observation, and practice teaching are required each week. Before beginning practice teaching students must complete thirty hours of observation. (Not open for enrollment to students who have had course 115-116.) 8 s.h. (E)

Professor Nahm
117. Community Nursing Service.-Designed for administrators, teachers and supervisors in schools of nursing. Emphasis is on the utilization of outpatient departments and community social and health agencies in planning the nursing school curriculum, and in the preparation of nurses for community service. 3 s.h.

Assistant Professor Massey
120. Nursing Education: Problems in Nursing Care.-Each student works on an individual problem designed to improve the nursing care of patients. 3 s.h. (E)

Professor Nahay
124. Nursing Education: Teaching of the Nursing Arts.-In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 3 s.h. (E)

Professor Nahm
130N. Psychosomatic Nursing.-A study of the close relationship between mind and body in all illness, and of the techniques of observation and interview, both experimental and therapeutic. Lectures, clinics, conferences, discussions and experience with patients. 4 s.h. Assistant Professor Moser

131 N-132N. Psychiatry and Psychiatric Nursing.-An advanced study with special emphasis on personality development and the preventive and therapeutic aspects of psychiatry and psychiatric nursing. In the second semester the mánagement of practical situations of increasing complexity is stressed. Lectures, clinics, conferences, discussions and experience with patients. 8 s.h.

Assistant Professor Moser
133N. Seminar in Psychiatric Nursing.-Special study of areas such as behavior problems of children, projective tests, group therapy, mental hygiene clinics, etc. 3 s.h.

Assistant Professor Moser
193. Ward Administration and Teaching.-This course is designed to help head nurses better to understand their functions in planning and managing a program on a hospital division which will result in improved care of patients. greater satisfaction for professional and non-professional personnel, and a more adequate teaching program for students and others. 3 s.h.

Assistant Professor Ingles
195. Personnel Work in Schools of Nursing.-The primary purpose of this course is to help head nurses and supervisors to develop greater understanding of the principles of human behavior, and greater ability to apply those principles in working with patients and others on hospital divisions, and in establishing cooperative relationships with other departments of the hospital. $3 \mathrm{~s} . \mathrm{h}$.

Professor Nahm
DEPARTMENTAL MAJOR
A major in the Department of Education consists of 24 semester hours of work above the freshman year, not including any work listed as primarily for freshmen, and including at least 6 semester hours of courses limited to seniors or to seniors and graduates. Before graduation, majors in the Department must have credit for at least one course in educational psychology. and one course in history and philosophy of education, or in educational sociology. The remainder of their work may be elected from courses listed for
sophomorcs, juniors, and seniors, provided at least 6 scmester hours of the coursc work are taken from courses listed for seniors and graduates, and provided that not more than 6 scmester hours may be of courses numbered below 100.

## ENGLISH

[ROFESSOR IRVING, CHAIRMAN; ASSOCIATE PROFESSOR SANDERS, ACTING DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR BOWMAN, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS BAUM, BRINKLEY, GILBERT, GOHDES,

AND HUBBELL; VISITING PROFESSOR FOERSTER; ASSOCIATE PROFESSORS
BEVINGTON, BLACKBURN, LEARY, MITCHELL, PATTON, AND WARD;
ASSISTANT PROFESSORS BEVINGTON, HARWELL, JORDAN,
KLIGER, POTEAT, REARDON, SCFWERMAN, SUGDEN,
WETHERBY, AN゙D WHITE; DRS. CHURCH, ROBBINS,
AN゙D WILLIAMS; MESSRS. CANINE, GUILDS,
HUNTING, KENNEDY, LEE, REECE, REES,
RUNKEL, STONE, AND WILSON; MRS.
BRAVERMAN
L. English Fundamentals.-All freshmen whose scores on the placement tests indicate that they are not ready for English 1 must take this course. Students who fail in English L must repeat the course. Students who have carned credit in English L must also take English 1 and 2. 3 s.h. (w)

Assistant Professor Jordan; Messrs. Canine, Hunting, Lee, and Rees
1-2. English Composition.-All freshmen are required to take course 1 and course 2. (For exemptions, see Uniform Course Requirements, p. 60.)

Students who fail in English 1 or 2 must repeat the course in the following semester. Students in courses 1 and 2 who fail to make an average of " C " or better are strongly advised to earn credit for an additional course in English composition. 6 s.h. ( E \& w)
Assoctate Professors Bevington, Blackburn, Bowman, Patton. Sanders, and Ward: Assistant Professors Bevington. Hariwele, Jordan, Kliger, Poteat, Sugden, and White; Drs. Church, Robbins, and

M'illiams; Messrs. Canine, Guilds, Hunting. Kennedy, Lee, Reece, Rees, and Stone; Mrs. Braverman
33. Writing Laboratory.-A non-credit course in elementary composition which may be elected by students who need it, or may be required of certain students under the conditions stated on page 163, "Deficiencies in Composition." Students may enter or leave this course at any time, at the instructor's discretion. (iw)

Assistant Professor Jordan
53. English Composition.-A course in advanced composition and grammar. Emphasis is placed first on the student's mastering the fundamental principles of English grammar and the other essentials of correct writing. Weekly themes are required. 3 s.h. (w) Assistant Professor Jordan

65-66. English Composition.-A foundation course in imaginative writing, both prose and verse. Open to sophomores and in special cases to freshmen. The consent of the instructor is required. 6 s.h. (E)

Associate Professor Sanders
E93. Advanced Composition for Engineers.-Designed for achieving effectiveness in written reports, descriptions, technical investigations, etc. Open to sophomores and juniors. 3 s.h. (w)

Assistant Profegsor Harwell anjo Mr. Kennedy
101-102. Expository English Composition.-The course attempts to encourage fluency and accuracy in expository expression. Primarily for juniors and seniors; open also to sophomores approved by the instructor, 6 s.h. ( $\mathrm{E} \& \mathrm{w}$ )

103-104. English Composition.-A course in descriptive and narrative writing. Class discussion of students' manuscripts, supplemented by a critical evaluation of a few selected short stories and by individual conferences with the instructor. Open to sophomores, juniors, and seniors. The consent of the instructor is required. 6 s.h. (E)

Associate Professor Blackburn
107-108. Journalism.-The first semester is devoted to news-writing and copy-reading; the second semester to the writing of feature articles and editorials. 6 s.h. (w)

Assistant Professor Sugden
133. Verse-Writing.-The writing and criticism of original verse. Limited to not more than eight students, who must apply in writing to the instructor and submit original verse. Open to seniors, juniors, and exceptional sophomores and freshmen. Once a week throughout the year. $3 \mathrm{~s} . \mathrm{h}$. (E)
[Not offered in 1950-51]

## SPEECH AND DRAMA

105-106. Playwriting.-In the first semester a study and analysis of the techmique of the one-act play. Dramatic writing by the students is discussed in class. The second semester is an intensive period of writing and discussion, with emphasis on the development of individual style. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 6 s.h. (E) Assistant Professor Reardon
[105 only will be offered in 1950-51, in the second semester.]
118. Persuasive Speaking.-The psychological and sociological techniques used in gaining acceptance of ideas through speech. Study is made of the factors influencing human behavior; audience analysis and motivation; choice, arrangement and adaptation of material. Extensive practice in persuasive speaking. Prerequisite: English 151 or consent of the instructor. 3 s.h. (w)

Assistant Professor Wetherby
119. History of the Theatre.-The origin and development of drama, acting, and stagecraft from ancient Greece to the modern European and American theatre. Production problems of representative plays of the various periods will be discussed. Primarily for juniors and seniors; open also to sophomores approved by the instructor. First semester only. 3 s.h. (E)

Assistant Professor Reardon
121-122. Play Production.-An introduction to the methods of producing a play. The first semester covers theatre organization, play selection, casting, and rehearsal. The second semester covers scene design and execution, lighting, make-up, and costume. There will be laboratory work in both semesters. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 6 s.h. (E)

Assistant Professor Reardon
139. The Speaking Voice.-The correction of minor functional speech disorders. The speech organs and their function. The International Phonetic Aphabet and its use. Drill in pronunciation, diction, vocal quality. Primarily for sophomores, juniors, and seniors; also open to freshmen with the consent of the instructor. 3 s.h. (w)

Assistant Professors Schwerman and Wetherby
150. Oral Interpretation of Literature.-A study of the methods by which the creative literary artist attains the aesthetic objectives of unity, harmony, balance, proportion, variety, contrast, and rhythm; with practice in the technique by which these effects can be communicated to an audience. $3 \mathrm{~s} . \mathrm{h}$. (E)

Assistant Professor Schiverman
151. Essentials of Public Speaking.-A basic course in public speaking, designed to give the student the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of speech materials and to oral presentation. 3 s.h. (E \& w) Assistant Professors Schwerman and Wetherby;

Messrs. Runkel and Wilson
152. Argumentation.- The principles of argumentation and debating. The techniques of analysis, investigation, evidence, reasoning, brief making and refutation. Participation in class discussions and debates. Prerequisite: English 151 or consent of the instructor. 3 s.h. (w)

Assistant Professor Wetherby

## ENGLISH AND AMERICAN LITERATURE AND LANGUAGE

55-56. Representative Writers.-The following works are studied in the first semester: Chaucer's Prologue to The Canterbury Tales and at least two tales, Malory's Morte Darthur, Shakespeare's I Henry IV and King Lear and two other plays, Milton's Paradise Lost (abridged) and some of the shorter poems, Pepys's Diary; in the second semester: Swift's Gulliver's Travels, Fielding's Tom Jones, Boswell's Life of Johnson, Keats's Poems and Letters, Arnold's Essays (selected), Thackeray's Vanity Fair, Shaw's Saint Joan and Major Barbara. Lectures, recitations, short papers, and frequent tests. 6 s.h. ( $\mathrm{E} \& \mathrm{w}$ )

Associate Professors Bevington, Blackburn, Bowman, Patton, Sanders, and Ward; Assistant Professors Bevington, Kliger, Poteat, and Sugden; Drs. Church and Robbins; Messrs. Canine, Hunting, and Rees; Mrs. Braverman
63-64. Introduction to English Poetry.-In the first semester Chaucer, Shakespeare, and Milton are studied; in the second, Pope, the popular ballads, the Romantic poets, Tennyson, and Browning. 6 s.h. (E)

111-112. Eighteenth-Century Literature.-A study of the leading English poets, essayists, dramatists, and novelists from Swift to Blake, with the literary and social background. The major writers studied in the first term are Pope, Swift, Fielding, and Thomson; in the second term, Johnson, Goldsmith, Cowper, and Blake. Tests, discussions, and reports on outside reading. 6 s.h. (w)

Assistant Professor Kliger
117. Milton.-Milton's poetry and prose, together with their relation to the period and to other great works of literature. Lectures, discussion, occasional tests, one or two papers. 3 s.h. (E)

Professor Brinkley
123-124. Shakespeare.-In the first semester twelve plays, before c. 1600 ; in the second semester, ten plays, after c. 1600 . Occasional tests and one or two papers. 6 s.h. (E \& w)

Associate Professors Bowman and Ward; Dr. Williams
125-126. English Literature, 1789-1832.-The course begins with selections from the poetry of the forerunners of Romanticism. The chief emphasis in the first semester is on the work of the older Romantics: Wordsworth, Coleridge, Southey, Scott, and Lamb. In the second semester the chief emphasis is on the work of the younger Romantics: Byron, Shelley, Keats, Leigh Hunt, Hazlitt, and DeQuincey. Informal lectures and class discussion of assigned texts. A limited amount of outside reading is required, and also some memory work. There are about four tests each semester. 6 s.h. (E \& w)

Associate Professor Patton and Assistant Professor White
129-130. English Novel.-The work of the first semester covers the history of the novel through Scott; that of the second semester, from Dickens through Hardy. Lectures and book reports. 6 s.h. (e)

Associate Professor Mitcheli.
131-132. English Literature, 1832-1900.-A study of the chief English writers of poetry, prose, and drama from Carlyle to Yeats. The major writers studied in the first semester are Carlyle, Tennyson, Browning, Macaulay, Mill, Newman, and Arnold; in the second semester, Ruskin, the Rossettis. Morris, Swinburne, Shaw, and Yeats, with selections from minor writers. Collateral reading from novels of the period. Lectures, discussions, tests, and a term paper. 6 s.h. (E \& w) Associate Professors Bevington and Sanders
134. Contemporary Poetry.-A reading course in the poetry of the twentieth century in England, Ireland, and America, beginning with Gerard Manley Hopkins and William Butler Yeats. An anthology of modern poetry is read and discussed, supplemented by the wider reading of individual poets. Informal lectures and discussion with a critical paper for the term. Open to juniors and seniors, and occasionally to sophomores by special permission. 3 s.h. (E)

Assistant Professor Bevington
135. Major Works of the Victorian Period.-Intensive study of ideas and style in such important works as Mill's Autobiography and Liberty, Carlyle's Past and Present, Arnold's Culture and Anarchy, Morris's Nezes from Nowhere, Ruskin's Unto This Last, and Butler's Erewhon. Discussions, tests, reports. 3 s.h. (w)

Associate Professors Bevington and Sanders
137-138. American Literature.-A survey of American literature from Colonial times to the present. Selections from the works of important authors are read, from Cotton Mather to Eugene O'Neill, and whole novels by Hawthorne, Melville, James, Howells, and others. The work of the first semester ends with the Civil War period. Lectures, monthly tests, and a term paper each semester. 6 s.h. (E \& w)

Professors Hubbell and Gohdes: Associate Professor Leary, and Dr. Robbins
142. Materials and Methods of Teaching High-School English.-This course is planned to meet the requirements of the several state departments of education and the regional educational governing bodies, and serves as part of the student's general work in practice teaching. It is required in each of the states certifying college graduates who wish to teach high-school English. 3 s.h. (E)

Assistant Professor Jordan
143-144. English Literature: Elizabethan and Seventeenth Century.-In the first semester: several Elizabethan plays, with emphasis on Marlowe; selections from the prose writers; selections from the poets, with emphasis on Spenser and Shakespeare. In the second semester: several Jacobean plays; selections from the prose writers, such as Bacon, Browne, and Milton; selections from the poetry of Jonson and Donne and their followers: Milton's early poems, Paradise Lost, and Samson Agonistes. Lectures, tests, and a term paper each semester. 6 s.h. (E) Associate Professor Blackburn
153-154. Comparative Literature.-Important works in European literature are read in translation and related to similar documents in English literature. In the first semester are read: nine Greek tragedies, five of Plato's Dialogues, Vergil's Aencid, and Dante's Divine Comedy; in the second semester, Machiavelli, Cervantes, Molière, Voltaire's Candide, Goethe's Faust, Dostoievski's The Brothers Karamazov, Ibsen's plays. Discussions, tests, reports. 6 s.h. (E)

Professor Irving
155. Modern European Drama.-Emphasis is on Ibsen, Strindberg, and Chekhor, and on the Free Theatre movements. Some quite recent plays will also be studied. 3 s.h. (E)

Assistant Professor White
156. Modern British and American Drama.-Types of drama are studied in relation to European origins and to the contemporary scene. The students subscribe to Theatre Arts. 3 s.h. (E)

Assistant Professor White
158. Contemporary Fiction.-Wide reading in twentieth-century novelists, with special attention to innovations in form and technique. Lectures, discussion, and weekly critical reports. 3 s.h. (w) Associate Professor Leary
160. English Literary Biography.-A reading course in great biographies, with special emphasis on literary characters. Among those studied are several translated from Plutarch, Walton's life of Donne, some of Johnson's lives of poets, Southey's Life of Nelson, Lockhart's Life of Scott, Henry Adams' autobiography, and Strachey's Eminent Victorians. Lectures, discussions, reports, tests. 3 s.h. (w)

Associate Professor Sanders

161-162. Modern English and Its Backgrounds.-An elementary descriptive and historical study of the English language: its sounds, its words (forms and meanings), and its syntax. Some attention is given to the methods of linguistic inquiry and to the relations of philology to literary studies. The first semester is devoted chiefly to a description of modern English, the second to an historical survey of the earlier periods. Lectures, discussions, and short reports. 6 s.h.
[Not offered in 1950-51]
165. American Fiction.-A survey of fiction in America from its beginnings to 1870 , with emphasis on the development of the short story. Lectures, discussions, and frequent written reports. 3 s.h. (w)

Associate Professor Leary
166. American Fiction.-A survey of fiction in America from 1870 to the present, with emphasis on the local color movement and the rise of realism. Lectures, discussions, and frequent written reports. 3 s.h. (w)

Associate Professor Leary
168. English Prose, 1790-1830.-Selections from Burke, Godwin, Paine, Coleridge, Hazlitt, Lamb, Jane Austen, Scott, DeQuincey, and others. Special attention is given to the influence of the French Revolution and of French thought. Test and term paper. 3 s.h. (w) Associate Professor Patton

## FOR SENIORS AND GRADUATES

201-202. Anglo-Saxon.- In the first semester, an introduction to the language, with the reading of prose and of some of the shorter poems; in the second semester, the Beozurlf. 6 s.h. (w)

Professor Baum
[Not offered in 1950-51]
203-204. Chaucer.-Reading and interpretation of the text: in the first semester the principal Canterbury Tales; in the second, the Troilus and the minor poems. A reading report and a term paper. 6 s.h. (w)

Professor Baum
205-206. Middle English.-Close study of selected texts, with attention to the development of the language and to the history of the literature from 1200 to 1400 . A term paper each semester. 6 s.h. (w) Professor Baum

215-216. Elizabethan Drama.-Careful study of one major dramatist (Jonson or Beaumont and Fletcher) and extensive reading in the other writers (Heywood, Ford, Massinger, Marlowe, Middleton) with emphasis on the nature and qualities of their work in its historical background. Exposition of plays, reports, and a term paper each semester. 6 s.h. (w)

Professor Gilbert
217. Milton.-Milton's poetry and prose, with emphasis on the major poems. 3 s.h. (w) Professor Gilbert
[Not offered in 1950-51]
218. Spenser.-The reading of Spenser's works, with chief attention to The Faerie Queene. 3 s.h. (w) Professor Gilbert
219-220. The Eighteenth Century.-Swift, Pope, Defoe, Addison, Steele, and others are studied in the first semester; in the second. Gray, Johnson, Boswell, Goldsmith, the letter writers, and the early Romantic poets. Lectures, oral reports, and a term paper each semester. 6 s.h. (E)

Professor Irving
221-222. English Literature of the Early Nineteenth Century.-A survey of the principal writers and literary monuments from 1798 to 1830 ; in the first semester chiefly Wordsworth, Coleridge, and Lamb; in the second. Shelley, Byron, Keats, and Hazlitt. Occasional lectures, frequent classroom discussions of reading assignments, written and oral reports, and a term paper each semester. 6 s.h. (w)

Visiting Professor Fofrster

223-224. English Literature of the Later Nineteenth Century.-Some of the most important works of the period are discussed in class; the background is filled in by lectures and assigned reading. The first semester is devoted chiefly to Carlyle, Dickens, Thackeray, Tennyson, and Browning; the second semester to Arnold, Ruskin, Pater, George Eliot, Meredith, the Pre-Raphaelites, and Swinburne. A term paper each semester. 6 s.h. (w) Professor Baum
[Not offered in 1950-51]
227. Literary Criticism.-A study of the. Greek and Roman critics, in chronological order but with emphasis on their permanent value rather than on the mere history; also the Continental and English critics to about 1700. Lectures, reports, and a term paper. 3 s.h. (w)

Professor Gilbert
229-230. American Literature, 1800-1870.-The writers emphasized in the first semester are Emerson, Thoreau, and Hawthorne; in the second semester, Poe and Melville. In the first semester some attention is given also to Edwards, Franklin, Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman; and in the second semester, to Byrd, Jefferson, Freneau, Brown, Irving, Cooper, Kennedy, Simms, Timrod, and Lincoln. An oral report and a term paper each semester. 6 s.h. (E)

Professor Hubbell and Associate Professor Leary
233-234. American Literature since 1870.-Selected works of the chief writers of the period, including Whitman, Lanier, Mark Twain, James, Howells, Emily Dickinson, Crane, Dreiser, and others. The lectures deal with the social background and with the careers of the leading authors. One test and one term paper each semester. 6 s.h. (E) Professor Gohdes
235. History of American Drama.-The development of the theater and of dramatic literature in America. Emphasis will be placed on the drama as a reflection of the philosophical and social influences which affected American writing in other fields. 3 s.h. (w)

Associate Professor Leary
[Not offered in 1950-51]
237. English Drama, 1642-1800. -The Heroic Play and the Comedy of Manners of the Restoration period; and the important plays, serious and comic, of the eighteenth century. Lectures, class discussions, and short reports. 3 s.h. (w)
[Not offered in 1950-51]
239. Shakespeare Problems.-A study of the plays and poems as an introduction to problems involved in establishing and in interpreting the texts and in determining the nature and quality of the works in relation to their background. Lectures, short reports on assigned topics, and a term paper. Prerequisite: English $123-124$ or graduate standing. 3 s.h. (w)
[Not offered in 1950-51]
Professor Gilbert
241. Studies in Dryden.-A detailed study of the poet's non-dramatic work. Lectures on the political, religious, and literary background. A term report. 3 s.h. (E)

Associate Professor Warid
[Not offered in 1950-51]
247. Literature in Colonial America.-A study of what was written and read by American colonials. Roger Williams, Edward Taylor, Jonathan Edwards, William Byrd, Benjamin Franklin, and Francis Hopkins are among the writers discussed. Lectures, assigned readings, and occasional papers. 3 s.h. (w)

Associate Professor Leary
248. Literature in America, 1775-1820.-The development of a national literature. Philip Freneau, Timothy Dwight, Joel Barlow, Joseph Dennie, Charles Brockden Brown, William Dunlap, and James Kirke Paulding are among the writers discussed. Lectures, assigned readings, and occasional papers. 3 s.h. (w)

Associate Professor Leary

249-250. English Literature in the Sixteenth Century.-In the first semester, the beginnings of the drama; Barclay and Skelton; More, Elyot, Cheke, and their circles; Ascham, Tottel's Miscellany, and A Mirror for Magistrates; Gascoigne, North, Sir Thomas Hoby, and the translators; Lyly; Spenser. In the second semester, Sidney; the sonnet sequences; Marlowe. Kyd, and Peele; Green, Lodge, Nashe, and Dekker; Shakespeare; Chapman; Jonson. Some of the most important works of the period are discussed in class; the background is filled in by lectures and assigned readings. Short reports and a term paper each semester. 6 s.h. (w)
[Not offered in 1950-51]
251-252. English Literature in the Seventeenth Century.-A survey course which covers the major works in prose, poetry, and drama from 1600 to the death of Dryden. Lectures, reports, and term papers. 6 s.h. (e)

Associate Professor Ward
269-270. Southern Literature.-The principal writers discussed during the first semester are Byrd, Jefferson, Wirt, Kennedy, the Cooke brothers, Legaré, Simms, Timrod, Hayne, Longstreet and other humorists, and the poets of the Civil War. Considerable attention is paid to the historical and cultural background and to Northern and British authors who wrote about the South. An oral report and a term paper are required each semester. 6 s.h. (e)
[269 only, offered in second semester] Professor Hubbell

## DEPARTMENTAL MAJOR

Prerequisite: English 1 and 2.
Major Requirements: Twenty-four semester hours in English including the following :

1. Si.x hours in English 55-56.
2. Six hours in one of five designated period courses (143-144, 111-112, 125-126, 131-132, 137-138).
3. Threc hours in one of the major authors, Chaucer, Shakespeare, or Milton (203-204, 123, 124, 117).
4. Nine hours, distributed as follows:
(a) Three hours of English literature before 1800. Students who have chosen 143-144 or 111-112 for the period course may substitute any three hour course approved by their adviser.
(b) Three hours of English literature after 1800. Students who have chosen 125-126 or 131-132 for the period course may substitute any three hour course approved by their adviser.
(c) Three hours of American literature. Students who have chosen 137-138 for the period course may substitute any three hour course approved by their adviser.

Related aork: Eighteen semester hours which may include appropriate courses in history, aesthetics, art, music, languages, literature in translation, philosophy, or courses in composition, dramatics, and speech. Related work must be taken in at least two departments.

Electizes: Students may use 12 hours of their free electives for additional work in English and American literature. The maximum credit in such courses may not exceed 36 hours. A total of 54 semester hours credit in the department is allowed. Students who are looking forward to graduate work should take as many of the period courses as possible. No more than five seniors may be admitted to any course on the 200 level.

## FORESTRY

Students without a Bachelor's degree who are preparing for work in forestry as a profession should take the courses outlined under the AcademicForestry Combination (see pages 70-71). However, with the consent of the instructor in charge, certain forestry courses may be elected by students in other curricula provided they have had adequate preparation (see Bulletin of the School of Forestry).

Members of the sophomore, junior, and senior classes, whether or not registered in the Academic-Forestry Combination, may elect the following course :
52. Principles of Forestry.-An introductory study of the American forestry movement ; economic and social value of forests in the national economy; principal forest regions and timber trees in the United States; regeneration, treatment, protection, and management of forests as permanent crops; organization and activities of existing forestry agencies. 2 s.h. (w)
[Not offered in 1950-51]
Professor Thomson

## GEOLOGY

## ASSOCIATE PROFESSOR BERRY; MR. DORT

51. General Geology.-This course is designed to give a general view of the surface features of the earth, their origin, structure, and materials. Illustrative materials are studied in the laboratory. Excursions are made to neighboring points where the principles of the science are studied in the field. Three one-hour lectures or recitations and one three-hour laboratory. 4 s.h. (E)

Associate Professor Berry
52. General Geology.-This course is designed to give some knowledge of the chief events of the earth's history. Excursions will be made to suitable neighboring localities. Three one-hour lectures or recitations and one threehour laboratory. Prerequisite: Geology 51. 4 s.h. (E)

Associate Professor Berry
55. Structural Geology.-A study of the structural features of the earth's crust. Three one-hour lectures. Prerequisite: Geology 51, 52. 3 s.h. (E)
58. Geomorphology.-A detailed study of the processes at work on the land surface and the topographic forms produced by them under different climatic conditions. This course includes practice in the interpretation of topographic maps. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisite: Geology 51, 52. 4 s.h. (E)

101-102. Mineralogy.-This course is devoted to a study of the fundamentals of crystallography and the crystal groups, using crystal models and crystallized minerals. Followed by the systematic study of about $175 \mathrm{im}-$ portant minerals. Determinative work includes exercises on sight recognition, identification by blowpipe, and other physical and chemical tests. Excursions will be made to neighboring mineral localities. Three two-hour periods. Prerequisite: Chemistry 1-2 (can be taken concurrently). 8 s.h. (E)

Associate Professor Berry
151. Economic Geology.-Study of world distribution, geologic occurrence, and uses of important mineral deposits. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisite: Geology 101-102. 4 s.h. (E)
152. Introductory Paleontology.-Systematic study of invertebrate paleontology, dealing mainly with generic characters of the fossil invertebrates and their use in identifying and correlating geologic formations. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisites: Geology 51, 52, and Zoology 1. 4 s.h. (E)

Associate Professor Berry
164. Introduction to Geologic Mapping.-An introduction to the fundamental principles and techniques used in geologic mapping, including applicable methods of surveying, the use of acrial photographs, the interpretation of geologic maps, and the solution of problems in geologic relationships. Field excursions will be made when possible. Two hours of lecture and three hours of laboratory each week. Prerequisites: Geology $51-52,55,151.3$ s.h. (E)

## defartmental major

Prerequisites: None for Geology 51. Chemistry 1-2 for Geology 101-102 : Zoology 1 for Geology 152.

Major Requirements: Geology 51, 52, 55, 101-102, 151, 152, 164.
Geology 58 may be elected.

# GERMANIC LANGUAGES AND LITERATURE 

PROFESSOR VOLLMER, CHAIRMAN; ASSISTANT PROFESSOR MAXWELL, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR WILSON, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSOCIATE PROFESSOR SHEARS; MR. HOFEN, MR. YATES
All courses except Elementary and Intermediate German may be taken for one semester only, when circumstances make it advisable.

1-2. Elementary German.-6 s.h. (E \& w)
Assistant Professor Maxifell and Staff
3-4. Intermediate German.-6 s.h. (E \& w)
Associate Professor Wilson and Staff
51-52. Introduction to German Literature.-A third year course. Both literary and linguistic factors are combined with practice in the spoken language. 6 s.h.

Professor Vollmer and Staff
Seceral courses in the 100 and 200 group will be offered in 1950-51. Please consult list furnished by Dean's Office before registration.

107-108. Scientific German.-The German language as used in the various contemporary sciences. 6 s.h.

Associate Professor Wilson : and Assistant Professor Maxivell
109-110. German Prose Fiction.-Origin and development of the German novel with special emphasis on the nineteenth century. 6 s.h.

Associate Professor Wilson
111-112. Introduction to the Classic Drama.-Selected dramas from Lessing, Goethe and Schiller. 6 s.h. Associate Professor Wilson

115-116. German Drama of the Nineteenth Century.-A study of leading dramatists from Kleist to Hauptmann. 6 s.h. Associate Professor Wilson

117-118. German Conversation.-A course in writing and speaking German for properly qualified students. 6 s.h.

Professor Vollmer and Assistant Professor Maxifell
119-120. German Literature in English Translation.-The great epochs in German literature studied through English translations. 6 s.h.

Professor Vollmer
121-122. Schiller.-A study of his life and works in relation to the culture of the eighteenth century. 6 s.h. Assistant Professor Maxinell

123-124. Modern German Short Story.-Development and technique of the Novelle. 6 s.h. Associate Professor Shears

125-126. Contemporary German Literature.-A study of representative works of the twentieth century. 6 s.h.

Assoctate Professor Shears

127-128. Survey of Modern German Literature.-Excerpts from novels, poems and short stories illustrating the development of modern German literature are read. 6 s.h.

Professor Vollmer
131-132. Introduction to Goethe.-The reading of his early novels and epics and works pertaining to his life. 6 s.h. Assistant Professor Maxivell

201-202. Goethe.-A study of Goethe's life and works, with special emphasis upon the broader aspects of his ever-widening interests and literary activities. 6 s.h.

203-204. Eighteenth Century.-Eighteenth-century German literature in its relation to contemporary European philosophy. 6 s.h. Professor Vollmer

205-206. Middle High German.-The language and literature of Germany's first classical period. 6 s.h.

Professor Vollmer
207-208. German Romanticism.-The course covers the entire field of German romanticism from 1800 to 1850 . 6 s.h. Professor Vollmer

209-210. Kleist, Grillparzer, and Hebbel.-The dramatic development in Germany after Schiller. 6 s.h.

211-212. Heinrich Heine and Young Germany.-Heine's life and thought. culminating in the Jungdeutschland Movement. 6 s.h. Professor Vollmer

213-214. Literature of the Empire, 1871-1914.-A study of the literature of this period with emphasis on a few leading writers. 6 s.h.

Associate Professor Siiears

## DEPARTMENTAL MAJOR

1. Prerequisites: German 1-2 and 3-4.
2. Major Requirements: Twenty-four semester hours in the German Department. Twelve of these must be selected from the 200 courses. The remaining twelve may be selected from German $51-52$ and any courses in the 100 group except 119-120.

## GOVERNMENT

See courses listed under Political Science.

## GREEK

ASSISTANT PROFESSOR TRUESDALE, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSOR WAY
Courses 15, 121-122, 141-142, and 131 are entirely in English and require no knowledge of the Greek language. The purpose in offering them is to give a wider circle of students some conception of the debt which modern civilization owes to the Greeks.

1-2. Course for Beginners.-Open to all students. 6 s.h. (iv)
Assistant Professor Truesdale
53-54. Xenophon.-Anabasis, Books I-IV. Open to students who have completed course 1-2. 6 s.h. (w)

Assistant Professor Rose
105-106. Homer.-Iliad, Books I-III. Plato.-Apology and Crito. Open to students who have completed courses 1-2 and $53-54$ or their equivalents. 6 s.h. (w)

Assistant Professor Truesdale
107-108. Euripides.-Medca. Sophocles.-Oedipus Tyrannus. Aristophanes.Clouds. Open to students who have completed the required preliminary work. 6 s.h. (w)

Staff
15. Mythology.-A study of Greek mythology and the use made of it in art and English literature. No knowledge of the Greek language is required. Open to freshmen as an elective in either semester. 3 s.h. (w \& E)

Assistant Professors Truesdale and Way

115-116. Sight Reading in Greek.-Three hours per week through the year. 4 s.h. (w) Assistant Professor Truesdale
117-118. Greek Prose Composition.-The character of this course is determined by the needs of the students enrolled. 3 s.h. (w)

Assistant Professor Rose
121-122. Greek Literature in English Translation.-The purpose of this course is to give a general survey of the life and civilization of the Greeks, especially to those who have never studied the language but wish to become acquainted with some of the choicest portions of the literature by the use of translations. It is, however, open as an elective to all juniors and seniors, whether they know Greek or not. First, the Iliad and the Odyssey are read in translation and illustrated with stereopticon views of the excavations and discoveries at Troy and other cities of the Aegean age; then, many of the extant plays of the three great tragic poets are studied in English translation. 6 s.h. ( $W$ \& E )

Assistant Professors Rose and Truesdale
Students may clect course 122, whether they have taken course 121 or not.
141-142. Greek Art.-Lantern lectures, designed to provide a comprehensive survey of the development of Greek sculpture and Greek architecture in all periods. The course is opened by a preliminary account of Egyptian, Mesopotamian, and Aegean backgrounds. Open to seniors, juniors, and (by arrangement) sophomores. No knowledge of Greek is required. 6 s.h. (E)

Assistant Professor Way
Students may elect course 142, whether they have taken course 141 or not.
131. History of Greece.-The history of the Greek world from the Late Bronze Age to the Macedonian conquest. Open to seniors, juniors, and (by arrangement) sophomores. No knowledge of Greek is required. 3 s.h. (W\&E)

Assistant Professor Way

## 203-204. Homer.-Odyssey. Pinđar and Bacchylides. 6 s.h. (w) <br> Assistant Professor Truesdale

207-208. Greek Orators.--Selected speeches. 6 s.h. (w)
Assistant Professor Way
209-210. Plato.-Symposium, Protagoras, and parts of the Republic. 6 s.h. (w)

Assistant Professor Way
Only one of the three year-courses for seniors and graduates (203-210), listed aboice, is offered each year.
243. Athenian Topography.-The topography and monuments of ancient Athens. 3 s.h. (w)

Assistant Professor Way
244. Greek Epigraphy.-Lectures on the history of the alphabet and the development of the local Greek alphabets, followed by extensive reading of inscriptional texts in facsimile. 3 s.h. (w) Assistant Professor Way
245. Greek Dialects.-A linguistic study of transliterated inscriptions illustrative of the major Greek dialects. The interrelations of the dialectal forms are examined with reference, where possible, to their origin in proethnic Greek. 3 s.h. (w)

Assistant Professor Way
246. Greek Historical Inscriptions.- The more valuable historical inscriptions are read in chronological order and interpreted in their general bearing upon the course of Greek history. 3 s.h. (w) Assistant Professor Way

247-248. Greek Archaeology.-Advanced course in the general field for seniors and graduates, comprising architecture, sculpture, vases, and the minor arts. 6 s.h. (w)

Assistant Professor Way
Of the courses numbered from 243 to 248 only two semester-courses are offered each year.

## DEPARTMENTAL MAJOR

I'rerequisites: Greek 1-2.
Major Requirements: A candidate for a major in Greek must complete 24 semester hours, including the following Courses: Greek 53-54, 105-106, $107-$ 108, 117-118, and 131.

Graduates of Duke University may attend the American School of Classical Studies at Athens, Grecce, without charge for tuition, and are cligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology and one in the languayc, literature, and history of ancient Greece, each with a stipend of $\$ 1,300$. They are awarded mainly on the basis of examinations held in the beginning of Fcbruary of each year.

## HEALTH AND PHYSICAL EDUCATION trinity college and college of engineering

MR. CAMERON, DIRECTOR; MESSRS. AYCOCK, BLY, CALDWELL, CHAMBERS, COOMBS, COX, FALCONE, GERARD, HAGLER, HARRISON, HEDSTROM, HENDRIX,

HENDRICKSON, HILL, KARMAZIN, LEWIS, MONTFORT, PARKER, PERSONS, WADE
REQUIRED PHYSICAL EDUCATION FOR MEN
A student must complete four semesters of physical education in order to fulfill graduation requirements.

All students are given a medical and physical examination before registration. Students who have physical handicaps must register in Corrective Physical Education. Students assigned to these classes will take work suited to their particular needs and capacities.

Students without defects will register in Physical Education 1 and 2 in their freshman year. The activities are selected from the following: Apparatus, combatives, games (fundamentals of basketball, soccer, volleyball), swimming and tumbling. Swimming is required each semester of freshman year.

After a student has completed Physical Education 1 and 2, he may complete his physical education requirement by electing and satisfactorily completing two courses from the following individual and team sports: Apparatus-tumbling, advanced ; badminton; basketball-handball ; boxing-wrestling; lacrosse ; swim-ming-water safety techniques; tennis-volleyball.

For information concerning gymnasium uniform sce page 170.

## ELECTIVES IN PHYSICAL EDUCATION

Students in Group VI A may elect 15 semester hours from the courses offered below. Six semester hours may be elected from the courses listed under Special Methods in Physical Education and 9 semester hours may be clected from the courses listed under Theory and Practice in Plysical Education.

These courses are arranged to meet the increasing demand for teachers who are qualified to coach and teach physical education. These courses should be selected with the advice of the Director of Undergraduate Studies in order to meet the needs of the individual.

## SPECIAL METHODS IN PHYSICAL EDUCATION

163. Athletic Coaching in Secondary Schools.- Theory and practice in the fundamentals of coaching baseball and track. Prerequisites: courses 1 and 2. Open to juniors and seniors. Sophomores by permission only. 3 s.h.

Mr. Coombs, Mr. Chambers
164. Athletic Coaching in Secondary Schools.-Theory and practice in the fundamentals of coaching football and basketball. Prerequisites: courses 1 and 2. Open to juniors and seniors. Sophomores by permission only. 3 s.h. Mr. Wade anid Staff

## TIIEORY AND PRACTICE IN PHYSICAL EDUCATION

65. History and Principles of Physical Education.-A study of the objectives and principles upon which physical education is based. The history of physical education is studied in order to show the changes in objectives, principles, and methods and as an aid in the interpretation of trends. Open to sophomores, juniors, and seniors. 3 s.h.

Mr. Aycock, Mr. Gerard
172. Recreational Leadership.-Cambative contests, games, mass athletics, supervision of community recreation. Open to juniors and seniors. Sophomores by permission only. 3 s.h.

Mr. Gerard
173. Individual Gymnastics.-The diagnosis of abnormal cases, including overweight, underweight, post-operative, postural, and flat-foot cases, with the prescription of exercise for their correction. Open to juniors and seniors. Sophomores by permission only. 3 s.h.

Mr. Аycock
182. The Administration of Health and Physical Education in Secondary Schools.-Presents the everyday problems that arise in the experience of the teacher of health and physical education. Open to juniors and seniors. 3 s.h.

Mr. Aycock, Mr. Gerard
187. School Programs of Physical Education.-Open to juniors and seniors. 3 s.h.

Mr. Gerard
190. Protective Practices in Physical Education.-A study of safety measures including training and first aid. Open to juniors and seniors. 3 s.h.

Mr. Chambers

## WOMAN'S COLLEGE

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IROFESSOR GROUT, CHAIRMAN; ASSOCIATE PROFESSORS BOOKHOUT AND LEWIS; MISS FRANCE, MISS HOLTON, MISS MASON, MISS PAYNE, MRS. SWASEY, AND MISS UHRHANE
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## REQUIRED PHYSICAL EDUCATION FOR WOMEN

Four semester hours of physical education, to be completed in six semesters, are included in the 124 hours required for graduation.

Every student must take one semester ( $\mathrm{I} / 2$ s.h.) of each of the following types of activity: individual or dual sport, dancing, and swimming (if she is unable to pass the swimming test). The remaining work necessary to complete the requirement may be elected from the activities listed in this section. All required work should be completed by the end of the junior year.

All students are given a physical and medical examination upon entering and at intervals throughout their college course. Classes in individual physical education and light sports are arranged for those who should not take the more active work.

For information concerning gymnasium costumes refer to page 170 .

## SPECIAL FRESHMAN PHYSICAL EDUCATION

At the beginning of the freshman year, after a series of tests has been given, individual conferences are held and each student is guided into the type of activity she most needs, as determined from the evaluation of the test scores and the results of the conference. In addition, one lecture hour of orientation, body mechanics, and social hygiene is required during the first semester.

In the Woman's College the three-year requirement is met as follows:

Physical Education 1, Orientation and Body Mechanics.-First semester. $1 / 2$ s.h.

Freshman Activities.-First semester. 1/2 s.h. Second semester. 1 s.h.
sOPHOMORE YEAR
Physical Education Activities.-1 s.h.
JUNIOR YEAR
Physical Education Activities.-1 s.h.

## physical education activities

Dancing: Folk dancing, modern dance, social dancing, square dancing, tap dancing.
Indiaidual and dual sports: Archery, badminton, bowling, diving, fencing, golf, life saving, light sports, riding, stunts and tumbling, swimming, temis.
Team sports: Basketball, hockey, softball, volleyball.
Special developmental activities: Body mechanics, individual physical education, fundamental rhythms, motor skills, posture.

## PHYSICAL EDUCATION THEORY

Students in the High School Teaching Program may receive academic credit for all courses listed below.

Students in the Elementary School Teaching Program may receive academic credit for Physical Education 102, Health Education 41 and 112.

Students in all groups may receive credit for Physical Education 105-106. 108, 114, and Health Education 41, 112, and 62.
101. History and Principles of Physical Education.-An historical survey of physical education stressing the relation between the types of activity developed and the social and political ideals of different nations and periods. A study of the principles upon which physical education is based. Analysis of successful teaching in physical education. 2 s.h. (E) Professor Grout
102. The Teaching of Physical Education in Elementary Schools.-A study of methods and materials used in teaching physical education to children; includes discussion on the theory of physical education, and practice in teaching elementary school activities. Required of women students in the elementary school teaching program. 3 s.h. (E)

Mrs. Swasey
103. Group Games of Low Organization.-Childhood rhythms and games of low organization. Required of students preparing for full-time teaching of physical education. 2 s.h. (E)

Mrs. Swasey
[Offered every other year alternating with P.E. 107.]
105-106. Methods and Materials in Recreation.-A course intended to familiarize students with recreation activities and methods of organizing groups in these activities. Laboratory work includes practical leadership experience with a recreational club or group in a city organization. General fields covered are: Social Activities, Music Activities, Folk and Square Dancing, Games and Sports, Arts and Crafts, Drama Activities, Nature and Outing Activities. Open to juniors and seniors without prerequisite. A year course meeting five periods per week throughout the year. 6 s.h. (E)

Mrs. Stwasey
107. The Teaching of Rhythmic Activities.-Theory and practice in different types of rhythms and dancing. Stress is laid on those types suitable for school use. 2 s.h. (E)

Associate Professor Lewis
[Offered every other year alternating with P.E. 103.]
108. Problems in Community Recreation.-A study of the historical development of organized recreation; recent trends and theories in recreation; qualifications and preparation for leadership; recreational interest of different age groups; the administration of playgrounds and community centers, including the study of local and state recreation departments. Open to juniors and seniors without prerequisite. 3 s.h. (E)

Mrs. Swasey
114. Kinesiology.-A study of muscle function. Analysis of fundamental movements with emphasis on the development of normal posture and efficient body movement. Required of students taking the 30 -hour major in physical education. Prerequisites: Zoology 1 and 2, and Zoology 53. 3 s.h. (E) (Not open to students who have had P.E. 116.) Associate Professor Bookhoul
116. Kinesiology.-A study of muscle function. Analysis of human motion as a basis for therapeutic exercise. Prerequisite: Human Anatomy. 3 s.h. (w) (Not open to students who have had P.E. 114.)

## Associate Professor Bookhout

118. Orthopedic and Remedial Physical Education.-A study of conditions requiring special or remedial exercises for different age groups. The teaching of body mechanics to normal groups. Purpose and technique of physical examination and evaluation of results. 2 s.h. (E)

Associate Professor Bookhout
119. Organization and Administration of Physical Education.-Curriculum building in physical education. A study of facilities including plans and equipment for gymnasia and playgrounds. Administrative problems of the highschool teacher and public school supervisor. Tests and measurements in physical education. 2 s.h. (E)

Professor Grout
181-182. Methods and Materials in Physical Education.-A course in the theory and practice of teaching and officiating in games and sports. Laboratory hours arranged to provide practice on the field and in the gymnasium. 4 s.h. (E)

Associate Professor Lewis and Staff
185-186. Advanced Methods and Materials in Physical Education.-A continuation of 181-182. Required of seniors preparing for full-time teaching in physical education. 4 s.h. (e) Associate Professor Lewis and Staff

## HEALTH EDUCATION

41. Personal Health Problems.-This course is designed to present basic health information to the student as an individual and also from the point of view of the student's relation to the social group in which she lives. The emphasis is on the individual as a dynamic, functioning personality, rather than as an anatomical structure. Open as an elective to all students and prerequisite for students preparing to teach physical education. Either semester. 3 s.h. (e)

Miss Uhrhane
62. Community Health Problems.-This course includes problems of health in community living such as environmental health hazards and their control, methods of community attack on specific diseases and disorders, health problems specific to certain groups, and the place and contributions of official and non-official public health agencies. With the assumption that the student is now a participating member of and will be a future leader in the community, an attempt is made to correlate and emphasize the physical, mental and emotional aspects of health in their relation to rich and effective and more complete social living. Prerequisite: H.E. 41. 3 s.h. (e) Miss Uhrhane
112. School Health Problems.-An introduction to school health prohlems as they confront the classroom teacher. The course recognizes the child's place as the center of the instructional program, and the center around which the environmental aspects of the school are organized. Specific problems to be
studied include: physical inspection of school children, communicable disease control, problems of the school plant in relation to the child's health, safety education, teaching procedures based on modern educational theories, and the physical and mental health status of the teacher as contributory to the effectiveness of the whole program. Required of all students in the elementary school teaching program and of all students preparing to teach physical education in secondary schools. 3 s.h. (E)

Miss Uhrhane

## REQUIREMENTS FOR TEACHING HEALTH AND PHYSICAL EDUCATION IN PUBLIC SCHOOLS

The following requirements have been set up for students in the Teaching Program who wish to qualify as full-time or part-time teachers of Health and Physical Education. These requirements meet the standards of the North Carolina Department of Public Instruction for certification in Health and Physical Education and of most of the other states represented in the student body. Students preparing to teach in any state are advised to check with the department as to specific requirements.

Prerequisites: Zoology 1-2, Health Education 41.
Thirty semester hours, including Physical Education 101, 103, 107, 114, 118, 119, 181-182, 185-186, Health Education 112 and Zoology 53, 142.

Education Requirements: Consult Department of Education.
Students preparing to teach physical education and health on a part-time basis only are advised to take at least the following program:

Prerequisite: Health Education 41.
A minimun of 15 semester hours, including Physical Education 101, 103. 107, 119, 181-182, Health Education 112.

Education Requirements: Consult Department of Education.

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                    HISTORY
PROFESSOR LAPR.IDE, CHAIRMAN; ASSOCIATE PROFESSOR HAMILTON, DIRECTOR OF
    UNDERGRADUATE, STUDIES; ASSISTANT PROFESSOR FERGUSON, SUPERVISOR OF
        FRESHMAN INSTRUCTION; PROFESSORS CARROLL, CLYDE, LANNING, ROBERT,
            AND SYDNOOR; ASSOCIATE PROFESSORS CURTISS, MANCHESTER, NELSON,
                ROPP, AND WOODY; ASSISTANT PROFESSORS ACOMB, PARKER,
                        STEVENS, AND WATSON; DR. HOLLEY; MESSRS.
                                COLTON AND GIVAN
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The undergraduate courses in history are designed to afford (1) an introduction to the study of history by a consideration of the history of the modern world; (2) a more intensive study of general American history; (3) opportunities for more advanced study of phases of American, English, European, Hispanic-American, Russian, and Eastern history which interest the teachers and students.

Course 1-2 or 51-52 or an equivalent is a prerequisite for all other courses; course E 1-2 is the prescribed course for students in the College of Engineering; courses 91 and 92 are prerequisite for courses 109-110, 113-114, 153-154, 203-204, 207-208, 209-210, 215-216, 263-264. Sophomores who took only one semester of course 1-2 in the freshman year may be admitted to courses 91 and 92,63 , or $67-68$, provided they made a grade of " $B$ " or above on the semester taken. Courses offered for seniors and graduates are limited to twenty-five students; juniors may not elect them without special permission from the Department and the Council on Graduate Instruction. Sophomores must obtain permission of the instructor in order to be admitted to courses numbered above 100 ; students who are not fully qualified sophomores will not be admitted to these courses.

1-2. Historical Background of the World Today.-This course is an introduction to the study of modern history with special reference to the issues in the modern world. Topics selected for emphasis are: the contest between liberty and authority in the modern state; changing economic organization and theory-capitalism and the challenges to it ; the problems of peace and war among the states; the changing faiths men live and die by. Beginning about 1500 with the rise of the European dynastic states, the story is pursued in the first semester to approximately 1871 , and in the second through the two great world wars. The central theme in both semesters is the expansion of the influence of Western Europe throughout the world, with some attention to the rise of the United States as a world power. 6 s.h. (w \& E)

Sophomores and juniors are not admitted to this course. One semester of the course may be counted as a general elective but not as fulfilling the minimum uniform requirements or, except as provided above, as a basis of further work in history.

Associate Professor Hamilton; Assistant Professors Acomb, Ferguson, and Stevens; Messrs. Colton and Givan
E. 1-2. The United States in the World Today.-This course is designed for students in the College of Engineering. Topics treated in the first semester are: the rise of national states in Western Europe and other factors attending the discovery and settlement of the New World; the foundation of American institutions; the establishment of the Federal Republic; the frontier, the westward movement, and contemporary international developments; the Civil War; the growth of industry and its influence on society; the Spanish-American War and the emergence of the United States as a world power. In the second semester the emphasis is on the growing interdependence of the Western nations in the twentieth century; their influence throughout the world; the participation of the United States in the World Wars and the resultant problems of today. 6 s.h. (w)

Dr. Holley
51-52. Historical Background of the World Today.-An introductory course for sophomores, juniors, and seniors dealing with the topics indicated in the description of course 1-2. 6 s.h. (w \& E)

## Associate Professors Curtiss and Ropp; Assistant

 Professor Parker; Mr. Givan[Not open to freshmen or to students who have had course 1-2.]
63. Naval History and Elementary Strategy.-After a review of earlier periods, attention is given to the rise of sea-power and its importance in more recent times and to naval actions, especially in the two World Wars. This course is not open to students who have had N.S.102. 3 s.h. (w)

Associate Professor Ropp
67-68. The Background of Modern European Civilization.-The work in this course deals with salient features of the history of the peoples of Europe and adjacent areas from the period of the earliest written records to the formation of the European States-system (c. 1648). Particular attention is paid to the correlation of economic and social activities with religious, artistic, and intellectual development. While intended primarily for sophomores, the course is open also to qualified juniors and seniors. 6 s.h. (E)

Associate Professor Nelson
91. The Development of American Democracy to 1865.-This course is a study of trends vital to an understanding of the United States today. The main theme is the development of American democracy. Problems of foreign policy, the growth of capitalism, political practices, social behavior, and conflicting ideals are considered in relation to this main theme. 3 s.h. (w \& E)

Assistant Professors Watson and Stevens
92. The Development of American Democracy, 1865 to the Present.-A continuation of History 91 with emphasis upon the emergence of contemporary problems. 3 s.h. ( $\mathrm{w} \& \mathrm{E}$ ) Assistant Professors Watson and Stevens

Courses 91 and 92 are intended both to serve as continuation courses in the study of history and to afford the student an opportunity to gain the understanding of the past of the United States essential for intelligent citizenship.

105-106. English Constitutional History.-A history of England with emphasis on constitutional aspects. This course is prescribed for students in the Pre-Legal Group in the junior or senior year. 6 s.h. (w)

Associate Professor Hamilton
Students who have had course 123-124 may not receive credit for this course.
107-108. Social and Cultural History of England.-A study of English history from the fourteenth century to the present time in an effort to arrive at a synthesis of social and political events and thus provide a background for the study of English literature. Emphasis is placed on the ages of Chaucer, Shakespeare, and Milton; the eighteenth and early nineteenth centuries; the reign of Victoria and the twentieth century. 6 s.h. (E)

Assistant Professor Ferguson
Sophomores who made an average grade of " $B$ " or above on course 1-2 may be admitted to this course.

109-110. Constitutional History of the United States, 1760 to the Present.A study of the basic problems in forming the Constitution; of its development through the major crises in the history of the United States; of the effects of changing social, cultural, economic, and political conditions on the Constitution. 6 s.h. (w)

Assistant Professor Stevens
113-114. America in the Twentieth Century.-A historical survey of political, economic, and social problems of twentieth-century United States. Einphasis is placed on reform movements from the Muckrakers through the New Deal, the emergence of the United States as a world power, and conflicting ideas and ideologies. 6 s.h. (w) Assistant Professor Watson

115-116. The Age of Absolute Monarchy and the French Revolution.-The study in the first semester deals primarily with the political and social institutions of Western Europe in the seventeenth and eighteenth centuries, including such topics as the absolute monarchy in theory and practice, the peasants, the nobles, commerciai and industrial classes, the Church. The study in the second semester includes the old regime in France, the French Revolution, and Napoleonic institutions in Western Europe. 6 s.h. (E)

Assistant Professor Acomb
123-124. English History.-A study in the first semester of the development in England of the institutions and habits of life characteristic of the nation and in the second of the extension of English influence throughout the world in the eighteenth, nineteenth, and twentieth centuries. 6 s.h. (w)

Professor Laprade
Students who have had course 105-106 may not receive credit for this course.
125-126. Europe in the Nineteenth Century.-The work in the first semester deals with the emergence of the Napoleonic empire from the French Revolution and subsequent events to 1861, including such topics as the organization of Europe against Napoleon, the attempts to settle Europe at Vienna and afterward, the revolutions of 1830 and 1848 , and the creation of the kingdom of Italy. Readings are assigned from contemporary writers. The work in the second semester begins with the growing importance of the sciences, with attention to Darwin and Faraday. It includes such topics as the application of thermodynamics and electrodynamics to industry, the spread of the industrial revolution from England to America and the Continent, the intensification of social conflict, the rise of Marxian and Fabian socialism, Prussia and the unification of Germany, the rivalry of the European nations in Asia and Africa. 6 s.h. (w)
[Not offered in 1950-51]

127-128. History of Latin America Through the Formation of the National Governments.-3 s.h. (w)

Professor Lanning
128. Inter-American Affairs.-This course treats the relations of the Latin-American states with each other and with the United States with the design of explaining the current significance of Latin America. Chief emphasis is placed upon social problems and movements common to all the republics and upon the role of the United States in Latin-American affairs, including such topics as American intervention; contributions of the United States to Latin-American life in such matters as public health; Pan-Americanism; Pan-Hispanism; foreign penetration and ideologies; the cultural and commercial aspects of the Good Neighbor Policy; Latin-American states in the World War. 3 s.h. (w)

Professor Lanning
129-130. European Expansion Overseas.-In the first semester attention is given to the age of discovery and exploration, the origin and development of the great European empires overseas, and the influence of this movement on the peoples of Western Europe. The work in the second semester deals with the decline of the mercantile empires of the eighteenth century, the rise of free-trade expansion, and the revival of mercantile imperialism in the late nineteenth and twentieth centuries. 6 s.h. (w) Associate Professor Manchester
[Not offered in 1950-51]
Ancient History.-Greek 131-Latin 131-132.-See Departments of Greek, Latin and Roman Studies. These courses do not count toward a major in history. (w)

136-136. Europe in the Twentieth Century.-The work in the first semester deals with the period before 1920, including such topics as international relations at the beginning of the twentieth century, the rise of German naval power, the Triple Alliance and the Triple Entente, the economic interdependence of the world, the Turkish Revolution, the Turco-Italian War and the Balkan wars. the first World War, and its immediate aftermath. In the second semester such topics are treated as the rise of totalitarian states, the disruption of world trade, and the second World War. 6 s.h. (w) Professor Carroll

141-142. The Far East from Commodore Perry to Chiang Kai-shek.Historical interpretations of the role of Eastern Asia in the recent World War with attention to such topics as Western imperialism in China and Japan in the nineteenth century; the rise of Japan as a military and industrial power; the emergence of militant Chinese nationalism; the fusion of the Far Eastern and the European wars into a world conflict; the rise of Chinese communism. 6 s.h. (w)

Professor Clyde
[Not offered in 1950-51]
153-154. The History of the South.-A study, beginning in the Colonial period, of the development of the Southern part of the United States with particular attention to its distinctive characteristics and institutions and to their influence in shaping Southern attitudes toward major questions of national policy. 6 s.h. (w)

Professor Sydnor
[Not offered in 1950-51]
161-162. Russia from Ivan the Terrible to Stalin.-Topics treated include the rise of the Russian state and its relations with Poland and Turkey; the agrarian problem and the rise of industry : the Russian Revolution; the political, agricultural, and industrial policies of the Soviet Union; the role of the U.S.S.R. in World War II and its postwar policies. 6 s.h. (w)

Associate Professor Curtiss
FOR SENIORS AND GRADUATES
203-204. The United States, 1850-1900.-The rise of sectionalism, secession, war-time problems of the Union and Confederacy, political and economic adjustments of Reconstruction, the status of the Negro, the New South, problems of capital and labor, the agarian revolt, political parties and reform. the Spanish-American War. 6 s.h. (w)

Assoctate Professor Woody

207-208. Social and Cultural History of the United States.-A study of American life and manners with emphasis on educational and reform movements, religion, and the social effects of a changing economy. 6 s.h. (w)

Professor Robert
209-210. American Constitutional History.-A study of the Colonial foundations of American constitutional attitudes, the constitutional aspects of the American Revolution, the framing and ratification of the Constitution, the statehood process and the extension of democracy, the constitutional implications of sectional conflict, and the Supreme Court in its relation to the problems of an industrial America. Prerequisites: courses 91 and 92.6 s.h. (w)
[Not offered in 1950-51]
211. The Teaching of History and the Social Studies (Education 225).3 s.h. (iv)

Associate Professor Manchester
215-216. The Foreign Policy and Diplomacy of the United States.-The work in the first semester, covering the period 1775-1877, deals with such topics as the origin and development of basic foreign policies; isolation from Europe; paramount interests in Latin America, including the Monroe Doctrine; international co-operation in the Far East. The work in the second semester, cov"ering the period ,since 1877, deals with topics such as the rise of the new "manifest destiny"; beginnings of American imperialism in Latin America and the Far East; the failure of traditional neutrality in the first World War ; postwar conflicts between isolation and collective security; involvement in the second World War. 3 s.h. (w)

Professor Clyde
[Not offered in 1950-51]
217-218. Europe since 1870.-International relations since the FrancoGerman War is the chief subject of study in this course; special emphasis is placed upon the underlying economic and political influences. 6 s.h. (w)

Professor Carroll
219-220. The History of the European Proletariat.-This course is concerned chiefly with the origins, expansion, and organization of the industrial working classes of Europe. The following problems are emphasized: the decline of serfdom, the growth of an urban working class and social revolutions in England, France, and Germany prior to the eightcenth century, the results of the Industrial Revolution, and labor movements and theories during the nimeteenth and twentieth centuries. 6 s.h. (w) Professor Carroll
[Not offered in 1950-51]
221-222. The Age of Renaissance.-A survey of social and cultural changes in Western Europe from Dante to Erasmus. 6 s.h. (w)

Associate Professor Nelson
225-226. The Age of the Reformation.-A survey of European civilization from 1500 through the Peace of Westphalia. 6 s.h. (w)
[Not offered in 1950-51] Associate Professor Nelson
227-228. The Napoleonic Empire and Its Aftermath.-A study, in the first term, of the conditions favoring the rise of Napoleon, the details of his rise to power, the characteristics of his Empire, its importance for European civilization, its decline and collapse, and the attempt of the conservatives at the Congress of Vienna to restore in part the pre-revolutionary world. The theme in the second term is the gradual disintegration of the settlement of Vienna through the ensuing decades to the unification of Germany in 1871. The emphasis after the collapse of the Napoleonic Empire is on Germany and the influences that made her civilization. 6 s.h. (w)
[Not offered in 1950-51]
Assistant Professor Parker
230. The Portuguese Empire and the Rise of Brazil.-The course deals with Portuguese explorations, the establishment of the Portuguese Empire in the East, the transplanting of Portuguese culture overseas, and the rise of a native Brazilian civilization. 3 s.h. (w) Associate Professor Manchester
231. The Hispanic Colonies of the New World.-The development of the lberian states as colonizing powers, the work of the conquerors, the Spanish colonial policy and system, their influences and results, native races, the international contest for supremacy, and the decay of Spanish power in America and the Philippines. 3 s.h. (w)

Professor Lanning
[Not offered in 1950-51]
232. The Hispanic American Republics.-3 s.h. (w) Professor Lanning [Not offered in 1950-51]
233. The Cultural and Institutional History of Colonial Hispanic Amer-ica.-3 s.h. (w)

Professor Lanning
234. Political and Social Problems in the Hispanic American Republics.3 s.h. (w)

Professor Lanning
235. War in the Modern World.-This course, which deals with military and naval history since Napoleon, is concerned with the relations between war and modern political, economic, and social conditions rather than with the details of battles. Special attention is given to the development of British and American military methods and to events in the American Civil War and the two World Wars. 3 s.h. (w) Associate Professor Ropp

241-242. Nationalism and Revolutionary Movements in the Fast East since 1900. -The industrialization of Japan and the rise of militaristic and totalitarian trends; modernization, republican, and communist movements in China; nationalism in Southeast Asia; American relations with these developments. 6 s.h. (w)

Professor Clyde
261-262. Russia in the Twentieth Century.-A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. 6 s.h. (w) Associate Professor Curtiss

263-264. American Colonial History and the Revolution, 1606-1783.-The growth of institutions and economic life in the English colonies and the American Revolution. 6 s.h. (w) Associate Professor Woody
[Not offered in 1950-51]

## DEPARTMENTAL MAJOR

Prercquisites: The Introductory Course in History (1-2 or 51-52).
Major Requircments: Students in the Gencral Group desiring to takc a major in history are readuired to elect 24 semester hours in the Department, including six semester hours in the senior year from courses in the 200 group. Students desiring to take the more advanced courses in American history should elect courses 91 and 92 in the sophomore or junior year.
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## LATIN AND ROMAN STUDIES

PROFESSOR ROGERS, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION

Students who wish by study in English to make acquaintance with Roman antiquity from either a literary or an historical approach are afforded that opportunity through the courses in translated Latin Literature (111-112), and Roman History (131-132).

Work is offered in several branches of Roman Studies: Latin Language and Literature, Roman Art and Archaeology, Roman History, Roman Law. Students who present two entrance units in Latin should take course 3-4; those who iresent three entrance units should take courses 57 and 65 and follow up with courses 4 and 58 or 66 , or both, the second semester; those who enter with four units of Latin should pursue course 51-52. A course for beginners, Latin 1-2, is open to all college students.

1-2. Course for Beginners.-Forms, vocabulary, pronunciation, and syntax are emphasized the first semester and will be followed by the reading and translating of Caesar's Gallic War the second semester. An effort is made to promote rapid development of ability to read easy Latin with satisfaction. 6 s.h. (E)

The Staff
3. Cicero's Orations.-Four orations including the Manilian Law and Archias are read, and attention is paid to prose style. Prerequisite: two entrance units of Latin. 3 s.h. (E)

The Staff
4. Vergil's Aeneid.-Selections from Books I-VI, to the amount of four books or more, will be read and translated, due attention being paid to prosody. Prerequisite: three entrance units and Latin 57 taken in the semester preceding admission to the course, unless Latin 3 was taken. 3 s.h. (e) The Staff
51. Latin Prose.-Selections from prose authors, or Cicero's De Senectute and De Amicitia, or selected books of Livy's history, with special emphasis on developing competence in reading Latin. 3 s.h. (e) The Staff
52. Latin Poetry.-Selections from the greatest Latin poets, especially Horace's Odes. 3 s.h. (E)

The Staff
53. Sallust and Tacitus.-The Jugurtha of Sallust, the Agricola of Tacitus. Prerequisite: Latin 51-52 or an equivalent. 3 s.h. (E)

Assistant Professor Rose
54. Catullus.-Most of the poems will be read, and Catullus' influence on certain ancient and modern poets will be discussed. 3 s.h. (E)

Assistant Professor Rose
57. Sight Reading in Classical Latin.-One period of an hour per week devoted to practice in the reading of Latin of the classical period; designed to train students to read with facility. (See Course 4.) No outside preparation is required. 1 s.h. (E)

Assistant Professor Rose
58. Sight Reading in Medieval Latin.-One period of an hour per week devoted to reading interesting medieval prose and poetry. Prerequisite: at least one of the following courses: Latin 3, 4,51,52, and 57, or an equivalent. No outside preparation is required. 1 s.h. (e) Assistant Professor Rose

65-66. Latin Prose Composition.-Recommended to students who are pursuing course $3-4,57$, and $51-52$, and may at the discretion of the instructor be required of such students. 2 s.h. (E)

Assistant Professor Rose
101. Tacitus and Suetonius.-Interesting and historically important selections from the Annals or the Histories of Tacitus, with some parallel sections of Suetonius' Lives of the Twelve Caesars, are read, with attention to the literary style and the value of the historical narrative. 3 s.h. (E)

Professor Rogers
102. Juvenal and Persius.-Juvenal's literary satire forms the basis of the course, and some selections from Persitis are read for comparison. 3 s.h. (E)

Professor Rogers
103. The Roman Elegiac Poets.
104. Horace: Satires and Epistles.
105. Martial's Epigrams.
106. Letters of Pliny the Younger.
107. Livy: Ab Urbe Condita.
108. Cicero's Letters.
109. Materials and Methods.-A study of Latin in the secondary school curriculum for prospective teachers of Latin in high schools. Prerequisite: eighteen approved semester hours of college Latin, including courses 51-52, or equivalent courses. Required of students who plan to teach Latin in state high schools. 3 s.h. Assistant Professor Rose
111-112. Roman Literature in English Translation.-Selective readings in Latin literature in English translation with emphasis on the drama, lyric poetry, and the varied contributions of Cicero to literature in the first term, and upon the epic, the satire and the novel in the second semester. (No language credit.) 6 s.h. (E)

Assistant Professor Rose

## 113-114. Roman Civilization.

115-116. Art and Architecture of Ancient Rome.
131-132. History of Rome.-A survey of the history of the Roman State from its beginnings to the death of Justinian; its expansion; development of its constitution and public administration; social, legal, political and economic problems of perennial life and interest; the background and setting of Christianity's rise and growth. (This course carries no language credit. No knowledge of Latin is required for admission.) 6 s.h. (e) Professor Rogers

203-204. Roman Epic: Ennius, Vergil, Manilius, Lucan, Flaccus, Statius, Silius.-A study of this literary genre, and its development by Roman writers: extensive reading of the Roman epics. Not offered if 205-206 is given. 6 s.h. (E)

205-206. Roman Drama.-Select comedies of Plautus and Terence; select tragedies of Seneca. Rapid reading course. 6 s.h. (E)

207-208. Roman Philosophy.
209-210. Vulgar Latin: Introduction to Romance Philology.
211-212. Roman Oratory.-A reading course in the history and development of Roman oratory, based for the most part on Cicero's Brutus and the Dialogus of Tacitus. 6 s.h. (E) Professor Rogers

## 215. Roman Art and Archaeology.

216. Topography and Monuments of Ancient Rome.

## DEPARTMENTAL MAJOR

Prerequisites: Latin 1-2, 3-4, or acceptable equivalents.
Major Requirements: Latin 51-52, 53-54, 65-66, six semester hours in courses numbered 101-108, and in the senior year six semester hours in courses of the 200 -group.

Majors are recommended to elect course 131-132, History of Rome.
Majors who contemplate graduate work are reminded of the necessity of Greek, German, and French for such study.

## MATHEMATICS

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PROFESSOR GERGEN, CHAIRMAN; ASSOCIATE PROFESSOR DRESSEL, DIRECTOR OF
    UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR HICKSON, SUPERVISOR
        OF FRESHMAN INSTRUCIION; PROFESSORS CARLITZ, ELLIOTT, RANKIN,
            ROBERTS, AND THOMAS; ASSISTANT PROFESSOR PATTERSON; DRS.
                ESTILL AND RUDIN ; MESSRS. FULTON AND GARRETT;
                        AND ASSISTANTS
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The following program of courses in Mathematics is planned for 1950-51. Fall: 1, 5, 6, 50, 51, 52, 53, 123, 131, 139, 229, 235, 255, 285, 291.
Spring: $1,5,6,16,50,51,52,53,124,125,131,140,230,236,256,286,292$.

1. Intermediate Algebra.-Elementary topics, factoring, fractions, linear equations in one, two, and three unknowns, functions and graphs, exponents and radicals, elements of quadratic equations. Prerequisite: one unit in algebra and one unit in geometry. 3 s.h. ( w \& E)

Staff
5. College Algebra.-Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, determinants, partial fractions, probability. This course and Mathematics 6 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h. ( $\mathrm{w} \& \mathrm{E}$ )

Staff
6. Plane Trigonometry--Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations. This course and Mathematics 5 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h. (w \& E) Staff
15. Spherical Geometry and Trigonometry.-Geometric properties of the sphere, theory and computation for spherical triangles, applications to navigation and astronomy. Prerequisite: Mathematics 5 and 6. 3 s.h. (w) Staff
16. Mathematics of Investment.-Simple and compound interest, annuities certain, amortization, sinking funds, depreciation, evaluation of bonds, life insurance. Prerequisite: Mathematics 5. 3 s.h. (w) Staff
50. Plane Analytic Geometry.-Rectangular and polar coordinates, loci, straight lines, conic sections. This course and Mathematics 51 may be taken concurrently. Prerequisite: Mathematics 5 and 6. 3 s.h. (w \& e) Staff
51. Calculus I.-Differentiation of elementary functions, curve tracing, maxima and minima, motion, curvature, indeterminate forms. Prerequisite: Must be preceded or accompanied by Mathematics 50. 3 s.h. (w \& E) Staff
52. Calculus II.-Integration of elementary functions, areas, solids of revolution, length of arc, surfaces of revolution, centroids, moments of inertia, pressure. Prerequisite: Mathematics 51. 3 s.h. $(w \& E)$ Staff
53. Calculus III.-Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 3 s.h. (w \& E)

Staff
63. Nomography.-Theory and actual construction of charts for approximate numerical calculations, theory of the slide rule, design of special purpose slide rules. Prerequisite: Mathematics 50. 3 s.h. (w) Professor Thomas
123. Higher Algebra.-The number system, mathematical induction, inequalities, series, recurring series, continued fractions, recurring continued fractions, summation of series, probability. Prerequisite: Mathematics 52, or permission of the instructor. 3 s.h. (w) Assistant Professor Hickson
124. Statistics.-Averages, moments, dispersion, skewness, kurtosis, correlation, types of distributions, curve fitting, graduation of data to type curves, sampling theory. Prerequisite: Mathematics 53. 3 s.h. (w)

Assistant Professor Hickson
125. Elementary Theory of Equations.-Permutations, determinants, matrices, linear systems, polynomials and their roots, constructibility, resultants, discriminants, simultaneous equations. Prerequisite: Mathematics 53. 3 s.h. (w)

Staff
131. Elementary Differential Equations.-Solution of elementary types; formation and integration of equations arising in applications. Prerequisite: Mathematics 52. 3 s.h. (w)

Staff

139-140. Advanced Calculus.-Multiple integrals, series, Taylor's theorem, partial differentiation, improper integrals, line integrals, Green's theorem, complex numbers. Prerequisite: Mathematics 53. 6 s.h. (w) Professor Elliott
160. Elementary Solid Analytic Geometry.-Planes, straight lines, quadric surfaces. Prerequisite: Mathematics 53. 3 s.h. (w) Staff

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FOR SENIORS AND GRADUATES
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201. History of Mathematics.-Evolution of the number system, arithmetic, geometry, algebra, trigonometry, analytic geometry, calculus, and modern geometry. Brief sketches of mathematicians. Offered in alternate years. Prerequisite: Mathematics 51. 3 s.h. (e) Professor Rankin
202. Teaching of Mathematics.-Fundamental processes, methods of study, mathematical literature, content of courses, applications, use of instruments, correlation of different branches, historical development of secondary school mathematics. Offered in alternate years. Prerequisite: Must be preceded or accompanied by Mathematics 52. 3 s.h. (e) Professor Rankin
203. Galois Theory of Equations.-Permutation groups, group of an equation, solvability by radicals. Prerequisite: Mathematics 53. 3 s.h. (w) Professor Thomas
227-228. Theory of Numbers.-Congruences, arithmetic functions, compound moduli, quadratic reciprocity, Gauss sums, quadratic forms, sums of squares. Prerequisite: Mathematics 53. 6 s.h. (w) Professor Carlitz

229-230. Algebraic Numbers.-Ideals, unique factorization, divisors of the discriminant, determination of the class number. Prerequisite: Mathematics 125. 6 s.h. (w) Professor Carlitz
235-236. Abstract Algebra.-Groups, fields, rings, matrices, quadratic and bilinear forms, general Galois theory, hypercomplex systems. Prerequisite: Mathematics 53. 6 s.h. (w)

Professor Carlitz
250. Higher Geometry.-Properties of the triangle, transversals, harmonic properties of figures, poles, polars, inversions. 3 s.h. (w) Professor Thomas

255-256. Projective Geometry.-Postulational, synthetic treatment centering around Desargues' theorem and the principle of projectivity. Conics, coordinates, order, continuity, metric properties. Prerequisite: Mathematics 53. 6 s.h. (w)

Professor Thomas
258. Finite Differences.-Interpolation formulas, symbolic methods, polynomials of Bernoulli and Euler, numerical differentiation and integration, difference equations. Prerequisite: Mathematics 53. 3 s.h. (w)

Professor Carlitz
271-272. Introductory Topology.-Topological properties of Euclidean spaces, set-theoretic and combinatorial methods. Prerequisite: Mathematics 53. 6 s.h. (w)

Professor Roberts
275. Probability.-Combinatory analysis, mean values, Bernoulli's theorem, probability integral, applications to statistics. Prerequisite: Mathematics 53. 3 s.h. (w)

Associate Professor Dressel
285-286. Mathematical Analysis for Physicists.-Potentials, Fourier series, Legendre polynomials, Bessel functions, heat equation. wave equation, telegraphic equation, Schrödinger's equation. Prerequisite: Mathematics 53. 6 s.h. (w)

Assoctate Professor Dressei.
291-292. Theory of Functions.-Limits, implicit functions, power series, double series, Cauchy's theorem and its applications, residues, Riemann surfaces, conformal mapping. Prerequisite: Mathematics 53. 6 s.h.

## DEPARTMENTAL MAJOR

The student who is planning to take his major work in mathematics is advised to consult with the Director of Undergraduate Studies of the Department as early as possible in his college work. The specific major and related work requirements are as follows.
For the A.B. degree:
Prerequisite: Mathematics 5 and 6.
Major and Related Work: 42 semester hours.
Major Requirements: Mathematics 50, 51, 52, 53, and 12 semester hours in courses in Mathematics numbered above 100, exclusive of Mathematics 201, 204. The total amount of work which the student may take in Mathematics toward the A.B. degree is limited to 36 semester hours.

Related Work: 18-24 semester hours of course work, ordinarily in the following departments: chemistry, economics and business administration, philosophy, physics. This work must be approved by the Department of Mathematics through the Director of Undergraduate Studies of the Department. It may include at most one 6 or 8 semester hour introductory course. The work must be taken in at least two departments.
For the B.S. degree:
Prerequisite: Mathematics 5 and 6.
Major and Related Work: 48 semester hours.
Major Requirements: Mathematics 50, 51, 52, 53, and 12 semester hours in courses in mathematics numbered above 100, exclusive of Mathematics 201, 204. The total amount of work which the student may take in mathematics toward the B.S. degree is limited to 40 semester hours.

Related Work: 14-24 semester hours of course work in the natural sciences. This work must be approved by the Department of Mathematics through the Director of Undergraduate Studies of the Department. It may include at most one course primarily open to freshmen. A minimum of 8 semester hours must be in laboratory science. The work must be taken in at least two departments.

## MEDICAL SCIENCE

These courses in medical science have been approved by the Faculty Council as appropriate for the Bachelor's degree.
103. Human Physiology.-A course in human physiology in which the functions of all organ systems are covered. Special emphasis is given to the study of neuro-muscular and cardiovascular functions. Lectures, laboratory experiments and demonstrations, and conferences. Limited to sixteen students. Primarily for physical therapy students. Prerequisites: Chemistry 1-2 and Zoology 1-2. 6 s.h.

Associate Professor McCrea and Staff
109. Anatomy Related to Motion.- A course in human anatomy in which the dissection is restricted to the muscles, bone, and joints, and to the circulatory and nervous systems as they are related to movement. Lectures and laboratory. Prerequisite: Zoology 1-2. 8 s.h. Professor Markee and Staff

## NAVAL SCIENCE

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PROFESSOR EARLE, CAPTAIN, U. S. NAVY; ASSOCIATE PROFESSOR VAN ARSDALL, COMMANDER, U. S. NAVY; ASSISTANT PROFESSORS BRACKETT, BREWER, COX, AND GUSTAFSON, LIEUTENANTS, U. S. NAVY; AND ASSISTANT PROFESSOR FETTERS, CAPTAIN, U. S. MARINE CORPS
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Standardized titles and designators for courses are established by the Bureau of Naval Personnel for use at the 52 NROTC institutions. The first digit indicates the year of the course; the second digit indicates whether semester or quarter ( 0 for semester, 1 for quarter) ; the third digit indicates the
semester or quarter of school year in which offered. Specialized courses for Marine Corps officer candidates are indicated by the letter "M" after the designator, and substitute for the basic course of the same number.

NS-101. Naval Orientation.-Organization for national security; the naval establishment and the operating forces; naval customs, traditions, regulations; basic characteristics, capabilities, and limitations of naval vessel types; nomenclature; introduction to carrier air, surface, undersea, and amphibious warfare; basic leadership. 3 s.h. (w) Captain Earle, Lieutenant Brewer

NS-102. Naval Orientation.-American sea power since 1775 ; the elements of sea power; applications of sea power in campaigns of the two World Wars; deck seamanship, rules of the nautical road, naval formations and maneuvers. 3 s.h. (w)

Captain Earle, Lieutenant Brewer
NS-201. Naval Weapons.-Evolution of naval ordnance ; types and properties of explosives; principles in design and assembly of guns, ammunition, fuses; automatic weapons; basic designs in torpedoes, mines, anti-submarine devices, rockets; principles in the control of fire of naval weapons against air, surface, and underwater targets; nuclear explosives. 3 s.h. (w)

Lieutenants Brackett and Gustafson
NS-202. Naval Weapons.- The elements in the problem of control of naval gun fire, the principles of mechanical and electronic solution of the problems; basic principles, capabilities and limitations of radar, sonar, and guided missiles; shore bombardment. 3 s.h. (w)

Lieutenants Brackett and Gustafson
NS-301. Navigation.-Magnetic and gyro compass; principles of chart construction; the sailings and dead reckoning; piloting; electronic and radar navigation; relative motion; rules of the natutical road; basic aerology and meteorology; maneuvering in storm areas. 3 s.h. (w) Lieutenant Cox

NS-302. Navigation.-Natical astronomy including a study of the actual and apparent motion of earth, celestial coordinates, time systems, solutions of the astronomical triangle; solutions of observations for lines of position; use of the sextant; identification of stars and planets; complete day's work in practical navigation. 3 s.h. (w)

Lieutenant Cox and Commander Van Arsdall
NS-302M. History of the Art of War.-The development of tactics and material as shown by decisive battles of history ; historical causes and effects of wars; the development of United States military policy; total war; briefs of campaigns of World War II. 3 s.h. (w)

Captain Fetters, USMC
NS-401. Naval Machinery and Diesel Engines.-Principles of steam engineering as related to naval installations for main propulsion; naval boilers, turbines, and related auxiliary machinery; pumps, distilling plants, and refrigeration. Basic principles of internal combustion engines, applications to propulsion installations for naval vessels, craft, and boats; fuels and lubricants. 3 s.h. (w)

Commander Van Arsdall
NS-401E. Naval Machinery, Ship Stability.-Applications of engineering practices in marine propulsion plants; principles of ship stability. (Limited to Engineering Majors.) 1 s.h. (w)

Commander Van Arsdall
NS-402. Ship Stability, Naval Justice, and Leadership.-The principles of ship stability and buoyancy in the practice of ship design, and in the practice of damage control. The procedures for, and the responsibility of, an officer in the administration of naval justice. The psychology and techniques of leadership. 3 s.h. (w)

Commander Van Arsdall
NS-401M. United States Military History and Policy.-The development of United States military policy, the tactics of United States forces in selected battles, current policy and functions of the armed services. 3 s.h. (iv)

Captain Fetters, USMC

NS-402M. Amphibious Warfare.-History of amphibious warfare and its development, principles of amphibious techniques, and applications of these principles in selected examples. 3 s.h. (w) Captain Fetters, USMC

## REQUIREMENTS FOR COMMISSION

Naval Science: 24 semester hours.
University courses: Completion of course requirements to qualify for the baccalaureate degree, or higher. These courses must include Mathematics 6, and Physics 1, 2 or 51,52 , to be completed by the end of the sophomore year. Physical training must be taken in accordance with University requirements, and each student must include such instruction in swimming as to qualify him as a first class swimmer.

Summer training: Regular NROTC students must participate in three periods of training on board ship or at naval stations. Contract students are required to take one training cruise of three weeks duration, normally between the junior and senior years.

## PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN; ASSOCIATE PROFESSOR MCLARTY, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR WELSH, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS GILBERT, PATTERSON, AND WIDGERY

Courses on the " 100 " and " 200 " levels do not generally have formal prerequisites, but unless the student has a special reason for taking one of these courses, he will be well advised to begin the study of philosophy with a course at the " 40 " or " 90 " level.
48. Logic.-The general character of logical thinking, with special emphasis on the fundamental principles of valid reasoning. 3 s.h.
(e) Assistant Professor Welsh (w)
49. Ethics.-An elementary consideration of some of the important moral problems in the light of philosophical tradition and the science of values. 3 s.h.

Professor Gilbert and Assistant Professor Welsh
91. Introduction to Philosophy.-This course is intended to acquaint the student with the nature of philosophical problems. 3 s.h. (E \& w)

Professors Gilbert and Widgery; Assistant Professor Welsh
93. History of Philosophy: Ancient and Mediaeval.-A study of the major philosophers of the period with special reference to the continuity of their thought. 3 s.h. (E)

Professor Patterson
94. History of Philosophy: Modern.-A study of the major philosophers of the period with special reference to the continuity of their thought. 3 s.h. ( $\mathrm{E} \& \mathrm{w}$ )

Professor Widgery; Associate Professor McLarty
97. Political and Social Philosophy.-A discussion of the fundamental principles of political government and of social organization, with some reference to social values and methods of political activity at the national and international levels. 3 s.h. (e) Professor Negley
98. Social Ideals and Utopias.-Readings of selected Utopias; analysis of the value-structures and political principles of these ideal societies. 3 s.h. (E)

Professor Negley
99. Fundamentals of Christian Morality: An Introduction to Christian Ethics.-Modes and ideals of life as exemplified in Christian history and expressed in Christian literature. 3 s.h. (E) First and second semesters.

Associate Professor McLarty
103. Logic.-Continuation of 48. Application of the principles of logic. The nature of deductive systems. Prerequisite: Philosophy 48. 3 s.h. (E)
104. Scientific Methodology.-A survey of the techniques and methods used for the attainment of knowledge in mathematics, the sciences, history and philosophy. 3 s.h. (E)
108. Philosophical Ideas in Ancient Greek and Roman Culture.-A study of selections from non-philosophical literature and of some other aspects of Greco-Roman culture, with attention to problems requiring philosophical discussion. 3 s.h. (E)

Associate Professor Mclarty
109. Introduction to Semantic Analysis.-The origins, nature, and uses of language; defects inherent in language as an instrument of communication; primary and subsidiary meanings; the function of association and imagery. 3 s.h. (E)

Assistant Professor Welsh
116. The Development of Philosophy in America.-A historical and critical survey of the leading philosophical movements from Colonial times to the present. 3 s.h. (E) First and second semesters. Professor Negley
117. The History of Ethics.-A critical study of the principal ethical theories from Socrates to the present. 3 s.h. (e) Assistant Professor Welsh
121. The Philosophy of Plato.-A general introduction, to acquaint the student with what Plato had to say about the problems of thought and life. 3 s.h. (E)

Associate Professor McLarty
199. Philosophy of Religion.-A critical examination of the facts of religious experience and their bearing upon metaphysics. 3 s.h. (E)

Professor Patterson
FOR SENIORS AND GRADUATES
201-202. The Philosophy of Art.-Analysis with the aid of examples of general terms used in the discussion of art. References to recent aesthetic theories. 6 s.h. (E)

Professor Gilbert
203. Contemporary Ethical Theories.-Reading and discussion of twen-tieth-century American and British moralists. 3 s.h. (e) Professor Negley
205. The Philosophy of History.-An enquiry into the logic and methodology of the knowledge of history and into the metaphysical implications of history. 3 s.h. (w)

Professor Widgery
208. Political Philosophy.-Analysis of the structure of social organization, with particular reference to the function of legislation in democratic politics. 3 s.h. (E)

Professor Negley
209-210. The Philosophy of Religion.-A critical consideration of the empirical data of religion and the constructive development of a modern philosophy of religion. 6 s.h. (w)

Professor Widgery
211. History of Ancient Philosophy.-Topic for 1950-51: Later Dialogues of Plato. 3 s.h. (E.)

Associate Professor Mclarty
212. History of Modern Philosophy.-Topic for 1950-51: British Idealists. 3 s.h. (E)

Professor Patterson
213-214. History of Aesthetics.-Theories of art and beauty from Pythagoras to Croce. 6 s.h. (e) Professor Gilbert
217. The Philosophy of Aristotle.-Prerequisite: course 93 or 211. (E)

Associate Professor Mclarty
218. Mediaeval Philosophy.-A study of the philosophy of the Middle Ages, with special attention to selected texts from the works of leading Christian, Jewish and Arabian philosophers. 3 s.h. (e) Professor Patterson
223. Contemporary Philosophy.-Topic for 1950-51: Recent Epistemological Theory. 3 s.h. (E) Professor Patterson
225. Locke, Berkeley, Hume.-3 s.h. (E)

Assistant Professor Welsh
231. Philosophy of Science I.-A historical and critical survey of the basic philosophical ideas underlying the development of modern science. 3 s.h. (E)
236. Oriental Philosophy I.-Chinese philosophy. 3 s.h. (w)

Professor Widgery
238. Oriental Philosophy II.-Indian philosophy. 3 s.h. (w)

Professor Widgery
242. Scientific Methodology.-A survey of the methods used in the various natural and social sciences. 3 s.h. (E)

## DEPARTMENTAL MAJOR

Prerequisite: Philosophy 48, but this course may be taken concurrently with courses that count toward the major.

Major Requirements: Twenty-four semester hours in philosophy. The program must include:

3 semester hours in the history of ancient philosophy (Course 93 or 211).
3 semester hours in the history of modern philosophy (Course 94 or 212)
Philosophy 117 (waived for students who take Course 49).
6 semester hours of work in the 200 series.
The prospective major should consult the director of undergraduate studies.

## PHYSICS

PROFESSOR NIELSEN, CHAIRMAN; PROFESSOR HATLEY, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSOR CARPENTER, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSORS GORDY, NEWSON, NORDHEIM, AND SPONER; ASSOCIATE PROFESSOR SMITH; ASSISTANT PROFESSORS GREULING

AND LEWIS; MR. BROWN AND ASSISTANTS
A student wishing to major in physics should arrange to complete the necessary mathematics as soon as possible.

1-2. Introductory Physics.-This course traces historically and experimentally the development of the important principles of physics. This course is open to freshmen, sophomores and juniors and meets the general science requirement. Threè hours of recitation and one two-hour laboratory each week. 8 s.h. (w \& E)

Professors Carpenter and Hatley and Staff; and Assistants
51-52. General Physics.-This course treats the basic principles of general physics in a more quantitative manner than Physics 1-2. It is designed for sophomores and juniors, and meets in a thorough way the physics requirement for entrance into the study of either medicine or engineering, and is well suited for the general science student. A limited number of freshmen who present physics for entrance and who are taking the required mathematics concurrently may be admitted by permission of the instructor. This course is not open for credit for students who have completed Physics 1-2. Four lecturerecitations and one three-hour laboratory period each week. Prerequisite: Mathematics 5-6 or equivalent (Mathematics 6 may be taken concurrently). 10 s.h. (w)

Professors Hatley and Carpenter and Staff; and Assistants

101-102. Intermediate Physics.-Mechanics and Heat.-This course covers in a thorough manner the elements of mechanics and heat. Three recitations and one three-hour laboratory period per week. Prerequisites: Physics 1-2 or $51-52$ or equivalent, and a course in differential and integral calculus which may be taken concurrently. 8 s.h. (w)

Professor Nielsen
151-152. Intermediate Physics.-Electricity and Optics.-The elements of electricity and magnetism and elementary electromagnetic theory leading up to optics. Geometrical and physical optics. Three recitations and one threehour laboratory per week. Prerequisites: Physics 101-102 or equivalent work approved by the instructor and differential and integral calculus. 8 s.h. (w)

Assistant Professor Lewis
A course in general college physics, Physics 101-102 or equivalent validated by examination, and a course in differential and integral calculus are prerequisites to all courses numbered 200 and above.

201-202. Mechanics.-The fundamental principles of statics and the dynamics of particles and rigid bodies. Three recitations each week. 6 s.h. (w) Associate Professor Smith

203-204. Electricity and Magnetism.-Fundamentals of electricity and magnetism. Electrostatics and magnetostatics. Direct current circuits and net-works-bridges, potentiometers, galvanometers, alternating current circuits and networks. Electromagnetic waves. 6 s.h. (w) Associate Professor Smith
205. Spectroscopy.-The theory of optical instruments and a discussion of spectroscopic laws and of information obtained by spectroscopic methods. Three lectures and one three-hour laboratory each week. 4 s.h. (w)

Professor Sponer
207. Sound and Acoustics.-Theory of vibrating systems. Mechanical-electrical-acoustical analogies. Emission and reception of sound, speakers and microphones. Transmission, reflection, refraction and absorption of sound. Acoustical applications. Two lectures and one three-hour laboratory each week. 3 s.h. (w)

Professor Nielsen
[Not offered in 1950-51]
213-214. Contemporary Physics.-A course which covers the fundamental concepts and the experimental basis of modern physics. Three lectures each week. 6 s.h. (w)

Assistant Professor Greuling
217-218. Advanced Physics Laboratory.-Measurements involving the fields of mechanics, electricity, magnetism, heat, sound, optics and modern physics. 2-6 s.h. (w)

The Staff
219. Electron Tubes and Their Application.-Fundamentals of electron tubes. Motion of charged particles, space charge, gaseous conduction. Electron tube circuits. Three hours of lecture and one three-hour laboratory per week. 4 s.h. (w)

Associate Professor Smith
220. Electronic Circuit Analysis.-Linear and non-linear circuit analysis, electric oscillations, operation of filters, Fourier analysis of wave phenomenon, coupling in electrical circuits. 3 s.h. (w)

Professor Gordy or Assoclate: Professor Smith
225-226. Elementary Investigations. - The aim of this course is to provide training in the laboratory and library methods of physical research. Properly qualified students may conduct elementary investigations under the supervision of a member of the staff. 3-6 s.h. (w)

The Staff

## DEPARTMENTAL MAJOR

A. For the A.B. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, and Mlathematics 5-6.
Major Requirements: Eighteen to 24 semester hours in physics including Physics 101-102 and Physics 151-152 or equivalent.
B. For the B.S. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, Chemistry 1-2 and Mathematics 5-6 or equivalent.

Major Requirements: Not less than 24 semester hours in physics including Physics 101-102 and Physics 151-152 or equivalent.

## POLITICAL SCIENCE

IROFESSOR RANKIN, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS COLE, CONNERY, WILSON AND VON BECKERATH; LECTURER EI.LIS; ASSOCIATE PROFESSORS HALLOWELL, SIMPSON AND VAN WAGENEN; ASSISTANT PROFESSORS HANSON, RICHARDS AND TRAVIS; DR. CHEEK ; MESSRS. DEENER AND HATHORN
21. Principles of Government.-An introductory study of the principles and problems of government. Open to freshmen as an elective. 3 s.h. ( w \& e) Associate Professor Van Wagenen and Assistant Professor Travis
22. Governmental Problems in International Relations.-A study of international politics as seen in current problems of international relations. Open to freshmen as an elective. 3 s.h. (w \& E)

Associate Professor Van Wagenen and Assistant Professor Travis
61-62. American Government and Politics.-A study of the American political system, including the organization and functioning of national, state, and local government in the United States. 6 s.h. (w \& E)

Professor Connery; Dr. Ellis; Associate Professor Simpson; Assistant Professors Richards, Hanson; Dr.

Cheek; Mr. Deener, Mr. Hathorn
63-64. Modern Constitutional Government.-Principles and institutions of modern constitutional government, the first semester being devoted to American government, the second to government outside the United States. 6 s.h.

Dr. Ellis
Course $61-62$ or $63-64$ is ordinarily taken before any advanced course in political science. A student who has not had either of these courses may take an advanced course in the Department with the approval of the instructor giving the advanced course. No student may receive credit for both course 61-62 and course 63-64.
111. Survey of Far Eastern Politics.-An introductory survey of international politics in Eastern Asia and the Western Pacific; the rise of Japan as a modern state; China's struggle for political unity, indcpendence and national development. 3 s.h. Dr. Eilis
112. Contemporary Problems in Far Eastern Politics.-The impact of World War II and its aftermath on political institutions and economic structures in the Pacific area. 3 s.h.

Dr. Ellis
121-122. Elements of International Relations.-Analysis of the operations of international politics, of the foundations of national power, and of international organization, with emphasis upon attempted solutions of the central problem of international security. 6 s.h.

Dr. Ellis; Associate Professor Van Wagenen
125. American Political Parties and Practical Politics.-A study of the historical development, organization, and methods of political parties in the United States. 3 s.h.

Assoctate Professor Simpson
136. Major European Governments.-A survey of the governments of the major European countries. 3 s.h.

Associate Professor Hallowell and Professor Cole
141. Public Administration.-An introduction to the role of administration in the governmental process considering principles of administrative organization, methods of administrative control, personnel and fiscal management. Current problems and development are emphasized. 3 s.h.

Assistant Professor Richards
146. Legislation.-A study of the legislative process with attention to procedure, methods, techniques, delegation of discretion, and the use of controls. 3 s.h.

Associate Professor Simpson
151. Latin-American Political Institutions.-A study of Latin-American governments during the colonial period. 3 s.h. Assistant Professor Travis
152. Latin-American Political Institutions.-A study of Latin-American governments during the national period, particular attention being given to the political institutions of Argentina, Chile, Colombia, Uruguay, Brazil and Mexico. 3 s.h.

Assistant Professor Travis
161. Government and Planning.-A study of selected aspects of physical and economic planning. Emphasis is placed upon governmental organization and procedures involved in planning, with some reference to British and Russian procedure. 3 s.h.

Assistant Professor Hanson
164. Government Control of Public Utilities.-A study of the legal, political and administrative considerations involved in governmental regulation of public utilities-communications, transportation, electric power and related segments of business enterprise. Attention is also given to problems of governmental ownership. 3 s.h.

Assistant Professor Hanson
174. Politics and Economics.-An analysis of the influence of politically dominant forces and ideologies upon economic policies in societies of principal Western countries since the seventeenth century. 3 s.h.

Professor von Beckerath
207. American Constitutional Law and Theory.-A study of leading principles of American government, as developed through judicial interpretation of the Constitution. 3 s.h.

Professor Wilson
209. State and Local Government in the United States.-A study of the historical development of state and local governments, their present organization, their relation to each other and to the federal government. 3 s.h.

Professor Rankin
211. Political Institutions of the Far East.-A study of the governmental systems of Japan, Korea, and China from the Chou Dynasty to the present. 3 s.h.
212. International Politics of the Far East.-A study of changing power relationships in the Orient since the arrival of the Europeans. 3 s.h.
221. International Public Organization.-A study of the structure and functioning of the United Nations system and of selected organizations outside that system. 3 s.h. Associate Professor Vin Wagenen and Assistant Professor Tranis
223. Political Thought to the Seventeenth Century.-A survey of political thought from the time of Plato to the close of the sixteenth century. 3 s.h.

Professor Wilson
224. Modern Political Theory.-Political theories of the seventeenth and cighteenth centuries, and of the first half of the nineteenth, with a study of their influence upon modern political institutions. 3 s.h.

Professor Wilson and Associate Professor Hallowell
225. Comparative Government.-A comparative study of modern political institutions with particular attention to European constitutional government and politics. 3 s.h.

Professor Cole
226. Comparative Government.-A comparative study of modern political institutions with particular attention to European authoritarian and dictatorial government and politics. 3 s.h.

Professor Cole
227-228. International Law.-Elements of international law, particularly as interpreted and applied by the United States. 6 s.h. Proressor Wilson
229. Recent and Contemporary Political Theory.-An analytical study of liberalism, socialism, and fascism, with special attention to the political theories of the nineteenth and twentieth centuries. 3 s.h.

Assoclate Professor Hallowell
230. American Political Institutions.-A study of the formation and development of institutions of the national government in the United States, with historical and analytical treatment. 3 s.h.

Professor Raniin
231. American Political Theory.-An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. 3 s.h.

Associate Professor Hallowell
235. The British Commonwealth.-An analysis of the political relationships between the members of the British Commonwealth and a comparative study of the governments of the British Dominions, with particular reference to Canada. 3 s.h.

Professor Cole
241. National Administration.- The development of the federal administrative structure, its present organization, working concepts and processes in the United States. 3 s.h.

Professor Connery
242. Administrative Management.-The role of the executive in administrative planning, organization, direction and supervision, with some reference to methods of work simplification and management improvement. 3 s.h.

Professor Connery
244. Administrative Law.-The law of the administrative process, including the nature of regulatory authority, the status and liability of public officers, administrative tribunals and judicial review of administrative action. 3 s.h.
[Not offered in 1950-51]
Professor Connery
246. Government Administration and Public Policy.-Through use of the laboratory technique, a consideration of type of administrative problems that the United States Government encounters in the field of public policy and their possible solution. 3 s.h.

Professor Connery
247. Regulatory Administration.-A surver of the problems involved in the exercise of administrative discretion, including methods of administrative adjudication, judicial control over administrative action, and extra legal relations. 3 s.h.

Professor Connery
[Not offered in 1950-51]
252. Spanish-American Constitutionalism.-A comparative study of the nature, sources, and use of political authority in the constitutional law of Argentina, Chile, Colombia, and Uruguay. 3 s.h.

Assistant Professor Travis
271. Sociopolitics and Capitalism.-Labor and labor policies in W'estern Europe and the United States in the nineteenth and twentienth centuries; the development of the monopoly power and political power of labor in recent decades. 3 s.h.

Professor yon Beckerath
291. Municipal Government.-A study of problems relating to the structural system and activities of municipalities in the United States. $3 \mathrm{~s} . \mathrm{h}$. Professor Rankin
292. Municipal Administration.-A study of principles and methods of municipal administration in the Lnited States. 3 s.h. Professor Raxikin

## DEPARTMENTAL MAJOR

Prercquisite: Political Science 61-62 or 63-6t.
Major Requircments: Eighteen semester hours of work in the Department above courses 61-62 or 63-64, including at least nine semester hours in SeniorGraduate courses.

## PSYCHOLOGY

PROFESSOR ADAMS, CHAIRMAN ; DR. GOFFARD, DIRECTOR OF UNDERGRADUATE STUDIES; IROFESSORS DAI, KUDER, LUNDHOLM, RODNICK AND ZENER; ASSOCIATE PROFESSORS BANHAM AND KOCH: ASSISTANT PROFESSORS COHEN, MCHUGH AND REICHENBERG-HACKETT; MR. OHLSON

91-92. General Psychology.-An introduction to the facts, principles, and problems of normal adult psychology through a study of psychological methods as applied to motivation, emotions, perception, sensation, thinking, memory, learning, individual differences, and personality. 6 s.h. (e \& w) Staff

Course 91-92 or its equivalent is a prerequisite for all other courses in psychology:
104. Comparative Psychology.-An examination of the bearing upon general psychological theory, especially in the fields of motivation, learning and development, of observations and experimental investigations of animal behavior. 3 s.h. (E)

Professor Adams
106. Abnormal Psychology.-A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. 3 s.h. (E)

Professor Lundholm
107. Psychological Analysis of Prominent Characters in Literature.Introducing a method of extracting from literature and from the cultural document at large valid generalizations concerning human nature. This course is designed for students who are interested in reading classical literature. Seniors, in case they should have taken Psychology 203, are not eligible for this course. 3 s.h. (E)

Professor Lundhola
109. Introductory Social Psychology.-Psychological bases of human and animal societies: effects of different societies on personality development; pedagogical implications. 3 s.h.
110. Applied Psychology.-Applications of psychology to problems of persomnel selection. industrial effciency; advertising and selling, detection and treatment of delinguents and criminals, and other problems of practical interest. 3 s.h. (w)

Mr. Ohlson
111. Advanced General Psychology.-A more intensive study of severai selected problem areas in the field of general psychology with special emphasis on experimental methods and findings in the areas considered. 3 s.h.

Dr. Goffard
115. Psychology of Personality.-A study of the historical and contemporary methods of investigating personality ; critical evaluation of findings in psychology and other sciences as they relate to a theory of personality; survey
of systematic approaches to personality and contemporary methods of measuring personality traits. 3 s.h. Assistant Professor Reichenberg-Hackett
116. Psychology of Adjustment.-An application of the principles and findings of normal and abnormal psychology as these relate to adjustment of the normal individual in our changing society ; a brief discussion of current socio-cultural trends significant for individual adjustment and a survey of the principles of mental hygiene. 3 s.h.

Assistant Professor Reichenberg-Hackett
Not given for major credit in Psychology.
Not open to students who have had Education 68.
119. Elementary Laboratory Psyckology.-Laboratory applications of the principles of scientific method to specific problems in psychology with particular emphasis upon the experimental techniques most appropriate for obtaining, analyzing, and presenting relevant data. Laboratory and lecture; open to psychology majors only, except by permission of the instructor. 4 s.h. (E)

Dr. Goffard
120. Basic Statistical Techniques in Psychology.-The application of the more elementary statistical techniques to the collection, analysis, and interpretation of data in psychological research. Open only to psychology majors except by permission of the instructor. 3 s.h. (E)

Dr. Goffard
121. Child Psychology.-A detailed study of the practical problems of infancy and early childhood, with special emphasis upon learning, emotional development, social adjustment, and modern conceptions and methods of child training and guidance. 3 s.h. (E)

Assistant Professor McHugh
126. Adolescent Psychology.-The mental, social and emotional development of adolescence and youth will be studied, special attention given to such topics as interests, motivation, home problems, sex differences, recreation, delinquency, and development for citizenship. Prerequisite: Psychology 121 or Education 8 or 88.3 s.h. (E) Assistant Professor McHugh
130. Principles in the Evaluation of Behavior Problems.-An introduction to the problems, principles and methods of clinical psychology as an area of application and of research. This course, at a pre-professional level, does not train or qualify the student for the practice of specific techniques in clinical psychology. Prerequisite: Psychology 106. 3 s.h.

Mr. Ohlson
203. Dynamic Psychology: Conation and Our Conscious Life.-A systematic presentation of the psychology of adult human achievements, adaptive as well as creative, with emphasis upon the significance for these endeavors of the acts of experiencing. Students who have taken Psychology 107 are not eligible for this course. 3 s.h. (E)

Professor Lundholm
206. Social Psychology.-Kinds of membership character; psychology of social movements; propaganda; revolutions; nationalism; war. 3 s.h. (E)

Professor Adams
207. Psychology of Memory, Thinking, and Perceiving.-A study of thinking, remembering, and perceiving with reference to the basic processes involved and their determining conditions, with emphasis upon organization, meaning and motivation. 3 s.h. (E)

Professor Zener
212. Physiological Psychology.-A study of the plysiological factors and processés underlying such basic psychological events as perception, adaptive and symbolic behavior, memory needs and emotions. Presupposes Introductory Zoology and preferably an additional course dealing with the structure and functioning of the nervous system. 3 s.h. (e) Professor Zener
215. Developmental Psychology.-Hypothetico-deductive method applied to the theory of personality structure and the changes it undergoes in development; learning, conflict, character, intelligence, developmental crises, etc.;
evaluation of researches on personality dynamics; lectures, readings, motion picture demonstrations. 3 s.h. (E)

Professor Adams
223. Abnormal Psychology.-A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. This course constitutes a slightly more technical survey of the same topic matter as Psychology 106. Seniors who have taken Psychology 106 are not eligible for Psychology 223. 3 s.h. (e) Professor Lundholm
228. Psychology of Belief.-3 s.h.

Professor Lundholm
231-232. Introduction to Research.-Restricted to senior psychology majors with at least a " $B$ " average in psychology who have completed Psychology 119 and Psychology 120. Before registration an outline of the project must be submitted for written approval by a departmental committee and by the staff member to whom it assigns the supervision of the research.

Professors Adans, Lundholm, Zener; Associate Professors Banham and Koch; Assistant Professors McHugh and Reichenberg-Hackett
266. Advanced Statistics of Psychological Investigation.-A study of various more advanced statistical principles and procedures employed in psychological research. The course includes the topics of multiple and partial correlation, analysis of variance as employed in controlled experimentation, measures ot correlation other than product-moment correlation, reliability and validity of measures, and fundamental concepts of factor analysis. Prerequisite: Psychology 120 or equivalent. 3 s.h. (e) Professor Kuder

## DEPARTMENTAL MAJOR

Prerequisite: Psychology 91-92 or equivalent.
Major Requirements: 24 semester hours of work in the department including Psychology 91-92, Psychology 119 (Elementary Laboratory), one semester of psychological statistics, and at least 6 semester hours in senior-graduate courses. Related work must include Zoology 1 and 2 or equivalent in biology, and 6 semester hours of sociology or anthropology.

## RELIGION

PROFESSOR MYERS, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS CANNON, HICKMAN, SPENCE, AND STINESPRING; ASSOCIATE PROFESSORS CRUM AND YOUNG; ASSISTANT PROFESSORS PHILLIPS AND SPENCE; VISITING ASSISTANT PROFESSOR BRADLEY; DR. BROWNLEE; MESSRS. JONES AND SALES
The uniform course requirements in Religion may be fulfilled by completing six semester hours in any of the following courses: 1, 2, 51, 52, 91, 101, 103, 114, 181, 182, 183.

1. The English Bible.-Survey of the contents of the historical and prophetic books of the Old Testament with particular reference to the literary, historical, and religious values. Required of all students majoring in religion and open to others as an elective in the freshman year. 3 s.h. (e \& w) Associate Professor Crum; Assistant Professor Spence; Visiting Assistant Professor Bradley; Dr. Brownlee; Messrs. Jones and Sales
2. The English Bible.-Study of the Psalms, Wisdom Literature, and the literature of the New Testament with special attention given to the literary, historical, and religious values. Required of all students majoring in religion and open to others as an elective in the freshman year. Although Religion 1 is not a prerequisite, it will be an aid to the student to complete 1 before taking 2.3 s.h. (e \& w) Associate Professor Crum; Assistant Professor Spence;

Visiting Assistant Professor Bradley;
Messrs. Jones and Sales
51. The History of the Hebrew People.-A study of the Hebrew people that gives attention to their political history, their religious and social institutions, their literary development, with special reference to their contributions to civilization. For sophomores; not open to students who have had Religion 1. 3 s.h. (E \& w)

Professor Myers; Assistant Professor Spence; Visiting Assistant Professor Bradley; Dr. Brownlee; Mr. Jones
52. New Testament Life and Literature.-After a rapid survey of the Psalms and Wisdom Literature, a study of the literature of the New Testament is made with attention given to its historical setting and religious values. For sophomores; not open to students who have had Religion 2. Although not a prerequisite, students will find either Religion 1 or 51 an aid to the work in 52 . 3 s.h. (E\& \& )

Professur Myfrs; Assistant Professor Spence; Visiting Assistant Professor Bradley; Dr. Lrownlee; Mr. Jones
91. Fundamentals of Christian Morality: An Introduciton to Christian Ethics.-(Identical with Philosophy 99.) 3 s.h.

Assistant Professor McLarty
101. The Social Teachings of the Prophets and Jesus.-A study of the social teachings of the Old Testament prophets and of the social ideas of Jesus as they apepar in the four gospels. Not open for credit to students who take Religion 10.3 or 114 . Either semester. 3 s.h. (w)

## Assistant Professor Phillips

102. The Christian Church in the Social Order.-This course will deal with the Christian Church in its service to society and its relation to other social institutions. 3 s.h. (iv)
103. The Prophets of the Old Testament.-In this course a study is made of the history and nature of prophecy, with particular attention being given to the messages of the outstanding pre-exilic literary prophets. Not open for credit to students who take Religion 101. 3 s.h. (e \& w) Professor Myers
104. The History and Religion of the Jews to the Roman Period.-The work in this course is based largely on exilic and post-exilic prophecy, the Wisdom Literature, and the earlier apocalyptic and apocryphal literature. 3 s.h. (w)

Professor Myers
114. The Life and Teachings of Jesus.-This course considers the period in which Jesus lived, the record of his life, and the meaning of his teachings as recorded in the Synoptic Gospels. Not open for credit to students who take Religion 101. 3 s.h. (E \& w)

Professor Myers
163. Religious Education of Children.-An analysis of the religious life, interests and capacities of children; including a study of the problems, objectives, methods, and materials involved in teaching religion to children. Directed to the needs of the lay workers in the church. 3 s.h. (E)

Assistant Professor Spence
167. Contemporary Religious Problems.-A course that deals with the main interests of life from the standpoint of their social and religious significance. 3 s.h.

Assistant Professor Phillips
168. Masterpieces of Great Religious Literature.-This course is devoted to the religious thought in the literature from the second to the twentieth centuries, with special attention given modern religious poetry. 3 s.h.

Professor Spence
169. Character Problems.- The psychology of adolescence and the problems of youth in character building. with attention to the character education agencies in local communities. 3 s.h. (E \& W) Associate Professor Crum
170. Religion and the Family.-A study of marriage and American home life with emphasis upon ethical and religious aspects. Not open to students who take Sociology 250. 3 s.h. (E\& w)

Associate Professor Crum
171. Introduction to the Psychology of Religion.-A study of the genesis and growth of religious cxpcrience, with special emphasis upon the cxperiences of youth. 3 s.h.

Professor Hickman
181. The Nature and Early Development of Religion.-Introduction to the carly history of religion, the beliefs and practices of the more primitive peoples, and the religious life of the ancient world. For seniors only. Not open for credit to studcnts who take Religion 183. 3 s.h. (w) Professor Cannon
182. Living Religions of the World.-A survey of the religious systems of India. China, and Japan, followed by a study of Judaism, Mohammedanism, and Christianity, the object being to trace the historical dcvelopment of each religion. For seniors only. Not open for credit to students who take Religion 183. 3 s.h. (w)

Professor Cannon
183. The Religious and Social Contributions of the World's Great Re-ligions.-A survey of the world's great religions to discover and appraise their cultural and religious values. Not open for credit to students who take Religion 181 or 182.3 s.h. (w)

Professor Spence and Yisiting Assistant Professor Bradley
192. Christian Beliefs.-An introductory study of the nature, significance, and contemporary relevance of some of the important Christian beliefs. Prerequisite : 3 semester hours of Bible (Religion 1, 2, 51, or 52). 3 s.h.

Visiting Assistant Professor Bradley
193. A Study of Materials Suitable for Public School Courses in Religion and Ethics, including the English Bible and other religious literature. 3 s.h. (E)

Associate Professor Crum
201-202. First Hebrew.-A study in the forms of the Hebrew language with reading of selected Old Testament narrativcs. 6 s.h. (w)

Professor Stinespring and Dr. Brownlee
207-208. Second Hebrew.-Samuel or Kings the first semester and Isaiah the second. 6 s.h. (w) Professor Stinespring and Dr. Brownlee

211-212. Hellenistic Greek.-Designed for beginners to enable them to read the Greek New Testament. 6 s.h. (w) Associate Professor Young
265. Religious Drama.-A historical survey of the relation between religion and drama, a study of the uses and underlying principles of religious drama, and a critical examination and interpretation of selected dramatic productions. 3 s.h. (w)

Professor Spence
268. Religious Drama Construction and Production.-Projcct work in the creation and production of religious drama and pageants. Practice in the selection, staging, lighting, and direction of religious plays. Construction of dramatic programs of worship. 3 s.h. (w)

Professor Spence
DEPARTMENTAL MAJOR

## Prerequisite: Religion 1-2, or 51-52.

Major Requirements: A major in the Department of Religion consists of 18 semester hours of work, exclusive of courses primarily for freshmen, selected with the approval of the instructor under whose supervision the student does his major work. Six of the 18 semester hours must be in courses with biblical content.

## ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN ; PROFESSOR WALTON, DIRECTOR OF UNDERGRADUATE STUDIES IN FRENCH; ASSOCIATE PROFESSOR DAVIS, DIRECTOR OF UNDERGRADUATE STUDIES IN SPANISH; ASSISTANT PROFESSOR DOW; SUPERVISOR OF FRESH-

MAN INSTRUCTION IN FRENCH; MR. PRATT, SUPERVISOR OF FRESH-
MAN INSTRUCTION IN SPANISH; PROFESSOR COWPER; ASSOCIATE PROFESSOR CASTELLANO; ASSISTANT PROFESSOR ARCHIE; DRS. DEMOREST, LEWIS, AN゙D LLERENA; MESSRS. NAJAM AND

RENTZ; MRS. CASTELLANO, MRS, DOW, MRS. GAULT, MISS MATTHEWS

All courses numbered below 100 are designed for the degree requirements of the general students. They aim to develop a sound reading knowledge, along with a reasonable facility in speaking and writing. The courses numbered above 100 provide more intensive instruction in the language, and systematic study of the standard literature in French and Spanish. Prospective teachers will find in course 118 a treatment of current methods in the teaching of French and Spanish.

Students who, by reason of foreign residence, have had special opportunities in French or Spanish must be classified by the Director of Undergraduate Studies.

## FRENCH

1-2. Elementary French.-Introduction to pronunciation. Essentials of grammar, emphasis on reading in the second semester. 6 s.h. ( $\mathrm{w} \& \mathrm{E}$ )

Assistant Professors Archie and Dow; Drs. Demorest and Lewis; Mr. Najam

3-4. Intermediate French.-Standard literary texts (short story, novel. drama) are used as the basis of intensive drill on the essentials of vocabulary, idiom, and construction. Extensive oral exercises are included in reading objective. Prerequisite: French 1 and 2 or two years of high-school French. 6 s.h. (w \& e) Professors Cowper, Jordan and Walton; Assistant

Professor Archie; Drs. Demorest and Leivis; Mrs. Dow; Mr. Najam
51-52. Introduction to French Literature.-Selected texts in modern French literature (fiction and drama) are approached from the literary as well as the linguistic point of view. Throughout the course there is systematic oral practice based on topics within the reading assignments. Prerequisite: French 3 and 4 or equivalent. 6 s.h. (w \& E)

Professors Cowper, Jordan, and Walton; Assistant Professor Dow; Drs. Demorest and Lewis; Mrs. Dow
55. Intermediate Conversation.-To be taken concurrently with French 51, except by special permission. Enrollment limited to 10 students per section. 1 s.h. ( $\mathrm{w} \& \mathrm{E}$ )

Mrs. Dow
56. Intermediate Conversation.-Continuation of 55 . To be taken concurrently with French 52. 1 s.h. (w \& E)

Mrs. Dow
108. The French Romantic Movement.-The Cénacles, Romantic poetry, plays and novels. Lectures; selections from Lamartine, Hugo, Vigny, Musset, Dumas and others. 3 s.h. (E)

111-112. French Drama since 1850.-Plays by Augier, Dumas fils, Pailleron, Becque, Brieux, Curel, Rostand, and Lavedan are studied the first semester. Plays by Maeterlinck, De Flers, De Caillavet, Porto-Riche, Romains, Sarment. J. J. Bernard, Lenormand, Pagnoi, Claudel, and Giraudoux are studied the second semester. Causeries and précis in French, written and oral reports. 6 s.h. (E)

Assistant Professor Dow
113. French Drama of the Seventeenth Century.-Selected plays of Corneille, Racine, and Molière. 3 s.h. (E)
[Not offered in 1950-51]
123. Liberal Thinkers of the Eighteenth Century.-Selected works of such authors as Diderot, Montesquieu, Rousseau, and Voltaire will be studied from the point of view of their impact upon the social and political thinking of the day. 3 s.h. (w)

Assistant Professor Archie
127-128. Advanced Composition and Conversation.-During the first semester elements of syntax are briefly reviewed, along with constant drill in the conversational idiom. In the second semester, there are exercises in free composition, with intensified treatment of pronunciation and diction. 6 s.h. (E)

Mrs. Dow
129-130. Great Men and Events in the French Literary Tradition.-Oral work and discussion of French texts in French as far as practical. Optional reading along various lines. Prerequisite: French $51-52.6$ s.h.
[Not offered in 1950-51] Professor Walton
134. Contemporary French Life and Thought.-An introduction to the essential currents in French thought since 1885. Representative literary works are used as a basis for analysis and discussion of the contemporary scene. Prerequisite: French 52 or equivalent. 3 s.h.

Dr. Demorest
213. French Classicism.-Its initial phase. Readings from Malherbe, Corneille, Molière, Racine, Pascal, Boileau, La Fontaine, La Rochefoucauld, Madame de Sévigné, La Bruyère, and others. 3 s.h. (e) Professor Walton
214. French Classicism.-Its final phase. Readings from Fontenelle, Saint-Simon, Abbé Prévost, Marivaux, Lesage, Montesquieu, Voltaire, and others. Main emphasis on Voltaire. 3 s.h. (e) Professor Walton

215-216. The Modern French Novel.-A survey of the novel form from the seventeenth to the twentieth century, with particular attention to the analysis of fundamental literary tendencies; classicism, rationalism, romanticism, and realism. 6 s.h. (E) Professor Jordan
219. Old French.-An introduction to the Old French language and literature. The Chanson de Roland-Aucassin et Nicolette. 3 s.h. (E)

Professor Cowper
220. Old French.-Types of Old French literature. The lais of Marie de France, Chrétien de Troyes and the Arthurian Romance, the Roman d'aventure, the Roman de la rose, and the Roman de Renard. Readings and lectures. 3 s.h. (E)

Professor Cowper
227. French Poetry since Théophile Gautier.-Readings from the principal figures of the Parnassian and Symbolist movements, including Baudelaire, Leconte de Lisle, Heredia, Verlaine, Rimbaud, Mallarmé, Régnier. 3 s.h. (e)
[Not offered in 1950-51]
Professor Walton
232. Rousseau and the Beginnings of Romanticism.-A study of the sources of the French Romantic Movement in the works of J. -J. Rousseau and his successors: Bernardin de Saint-Pierre, Senancour, Chateaubriand and others. 3 s.h. (E)

Professor Cowper
238. Anatole France.-Analysis of the principal phases of his work and its relation to the French tradition. Reading of his poetry, Le Crime de Syle'estre Bonnard, Thais, Le Jardin d'Epicure, Les Dieur ont soif, Le Ly's Rouge, L'Ile des Pingouins, parts of La I'ie Littéraire. Optional individual projects. 3 s.h.

Professor Walton
[Not offered in 1950-51]

## SPANISH

1-2. Elementary Spanish.-Pronunciation and essentials of grammar; emphasis on oral work with appropriate reading materials. 6 s.h. (w \& E)

Dr. Llerena; Mrs. Castellano, Mrs. Dow, Mrs. Gault, Miss Mattheivs; Messrs. Pratt and Rentz
3-4. Intermediate Spanish.-Readings of standard literary texts; intensive oral work; stress on vocabulary acquisition, review of verbs, and idiom drill. Prerequisite: Spanish 1-2 or two years of high-school Spanish. 6 s.h. (w \& E) Associate Professors Castellano and Davis; Dr. Llerena; Messrs. Pratt and Rentz; Mrs. Castellano, Miss Matthelvs
65. Introduction to Modern Spanish Literature.-Reading of representative modern and contemporary novels as an induction into the study of literature and as a means of maturing the student's command of the language. Prerequisite: Spanish 3-4, or equivalent. 3 s.h. (w \& E)

Associate Professors Castellano and Dayis; Dr. Llerena;
Mrs. Castellano, Mrs. Gault, and Mr. Pratt
66. Introduction to Modern Spanish Literature.-Study and oral interpretation of modern and contemporary plays, with continued stress on achievement of ability to read without translating. Prerequisite: Spanish 65 or equivalent. 3 s.h. (E)

Associate Professor Castellano; Mrs. Castellano and Mrs. Gault
68. Introduction to Spanish-American Literature.-Reading of selected modern novels typical of Spanish-American life, culture, and thought. This course is offered sometimes as an alternate to Spanish 66 and is accepted in fulfillment of major and graduation requirements. 3 s.h. (w) Staff
71. Intermediate Conversation.-Prerequisite: completion of Spanish 4 or consent of instructor. To be taken concurrently with Spanish 65. Enrollment limited to 10 students per section. 1 s.h. ( $\mathrm{w} \& \mathrm{E}$ ) Mrs. Castellano
72. Intermediate Conversation.-Continuation of 71. To be taken concurrently with Spanish 66 or 68 . 1 s.h. (w \& E) Mrs. Castellano
155. Survey of Spanish-American Literature.-Reading and discussion of representative works which illustrate literary trends from the early Colonial period through Romanticism. Prerequisite: Spanish 65-66 (or 68), or special permission. 3 s.h. (E) Mrs. Gault
156. Survey of Spanish-American Literature.-Study of representative works in the field of the novel, the drama, and poetry of the modern and contemporary period, including consideration of such native types as the gaucho and indianista literature together with a brief introduction to the modernista movement. Prerequisite: Spanish 155, or 65-66 (or 68) with special permission. 3 s.h. (E)

Mrs. Gault
173. Advanced Conversation.-One hour a week will be devoted to a revicw of the elements of syntax. The remainder of the course aims to develop lacility of expression through constant drill on vocabulary and conversational intiom. Prerequisite: Spanish 66 (or 68 ) and 71-72, or permission. 3 s.h. (E)

Associate Professor Castellano
174. Phonetics and Diction.-This course is intended to round out the tule cat's oral experience, with emphasis on accurate pronunciation. Use is ma. 'e of phonographic demonstrations and corrective exercises, with individual ricordings. Prerequisite: Spanish 173 or special permission. 3 s.h. (E)

Associate Professor Castellano

257-258. Old Spanish Language and Literature.-First semester: The historical development of the language together with illustrative readings. Second semester: The literature of the Middle Ages and Early Renaissance. Available to properly qualified students upon consultation with the instructor. 6 s.h. (E) Associate Professor Davis
260. Advanced Composition and Syntax.-Study of fundamental difficulties in the language; practice in writing idiomatic Spanish; exercises in free composition. For students who have a satisfactory command of Spanish grammar and fair conversational ability. Prerequisite: Spanish 173-174 or permission. 3 s.h. (e) Associate Professor Castellano

261-262. Modern Spanish Novel. - The evolution of the novel from the costumbrista writers through the generation of 1898 . Prerequisite: 6 semester hours from courses 155 to 174 inclusive, or 65-66 (or 68) and instructor's permission. 6 s.h. (e) Associate Professor Davis
264. Modern and Contemporary Spanish Theatre.-A brief review of the modern and contemporary Spanish theatre from the period of Romanticism. Lectures, reading and discussion of the most representative works of Benavente, Martínez Sierra, los hermanos Quintero, etc. 3 s.h. (E)

Associate Professor Castellano
265. Golden Age Literature: Cervantes.-The life and thought of Cervantes with special emphasis on his Quijote. 3 s.h.

Associate Professor Castellano
266. Golden Age Literature: The Drama.-Study of the chief Spanish dramatists of the seventeenth century with readings of representative plays of this period. 3 s.h.

Associate Professor Castellano

## THE TEACHING OF ROMANCE LANGUAGES

118. The Teaching of Romance Languages (Education 166).-Evaluation of objectives and methods; a study of the practical problems involved in the teaching of reading, writing, hearing, and speaking: analysis of text books, teaching aids, and testing technique. 3 s.h. (e) Associate Professor Davis

## DEPARTMENTAL MAJOR

## Prercquisites:

For French: French 51-52, or equivalent.
For Spanish: The completion of Spanish 65-66 (or 68), or equivalent. Major Requirements:

For French: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours in course 127128; (b) six semester hours of literature in courses 213 to 238 . Students desiring the recommendation of the Department for the teaching of Romance Languages will take, in addition, course 118.

For Spanish : Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours of linguistic training (courses 173-174, 260); (b) six semester hours of literature in the courses numbered above 200.

## RUSSIAN

mr. WIENER
51-52. Introduction to the Russian Language.-Open to freshmen with the approval of the Dean. 6 s.h. (w)

Mr. Wiener
53-54. Intermediate Russian Language.-Prerequisite: Russian 51-52 or equivalent. 6 s.h. (w)

Mr. Wiener

63-64. Introduction to Scientific and Medical Russian.--Introduction to the Russian language as used in the various contemporary sciences. Prerequisite: Russian 51-52 or equivalent. 6 s.h. (w)

Mr. Wiener
[Not offered in 1950-51]
101-102. Russian Culture and Literature Through the Nineteenth Cen-tury.-After a brief survey from earliest times through eighteenth-century classicism, enlightenment, and sentimentalism, attention is focused on the literature of the nineteenth century, and the development of romanticism and of the realist school. Special attention is given to the works of Pushkin, Lermontov, Gogol, Goncharov, Turgenev, Tolstoi, Dostoerski, and Gorki. Readings are assigned in English translation. 6 s.h. (w)

Mr. Wiener
103-104. An Introduction to Soviet Literature and Culture. - An analysis of the development of literature and culture during the Soviet period and of the effect of Soviet policy on the literary production of the time. Attention is given to the cultural effects of the Soviet revolution, early schools of poetry and criticism, the emergence of Soviet fiction, the literature of the Five Year Plan, later Soviet poetry, criticism, theatre, and fiction, the literature of the war and recent trends in Soviet criticism. Readings are assigned in English translation. 6 s.h. (E)

Mr. Wiener

## SOCIOLOGY AND ANTHROPOLOGY

PROFESSOR JENSEN, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS HART AND THOMPSON; ASSOCIATE PROFESSOR SCHETTLER; ASSOCIATE PROFESSOR LA BARRE; ASSISTANT PROFESSOR WHITRIDGE
91-92. General Sociology.-The same as course 101, except that it gives an additional hour of credit to permit the introduction of more concrete materials. 6 s.h. (e \& w) Professor Jensen; Associate Professor Schettler; Assistant Professor Whitridge
101. General Sociology.-An introduction to the scientific study of social life; its origin, evolution, and organization as illustrated by the study of a number of concrete social problems. 5 s.h. each semester. (w)

Associate Professor Schettler

## I. ANTHROPOLOGY

111. General Anthropology.-Origins and distribution of the races of mankind; a survey of human palacontology and human biology, world archaeology, prehistory and languages; and the origins of the family, primitive economics, arts, social and political organization. Special attention is given to primitive peoples. 3 s.h.

Associate Professor La Barre
112. Cultural Anthropology.-A study of the dynamics of culture, the causal factors, functions, integration and disintegration, diffusion, growth and change of cultures. Emphasis is upon the simpler societies. 3 s.h.

Associate Professor La Barre
211. Peoples of the World.-A comparative study of cultures the world over, including marriage, religion, economics, social and political organization. art and music, with emphasis upon preliterate peoples. Prerequisite: course 91-92, or 101, or 111 or 112.3 s.h. Associate Professor La Barre
212. Primitive Religion.-The ethnography, the social functions and the socio-psychological meanings of religion in primitive societies. Prerequisite: course $91-92$, or 101 , or 111 or 112.3 s.h. Associate Professor La Barre
213. Personality and Society.-The sociology and social psychology of human personality, its origins in the primary group, its nature and varieties, and
its integrations into secondary group institutions, with emphasis upon the normal personality and its adjustments in our society and to our culture. Prerequisite: course 91-92, or 101 , or 111 or 112.3 s.h.

Associate Professor La Barre
[Admission only by consultation with the instructor.]
214. Personality and Culture.-The influence of culture patterns and social institutions on character structure, socialization of the individual and the dynamics of human personality. Comparative anthropological materials will be drawn upon. Prerequisite: course 91-92, or 101, or 111 or 112. 3 s.h.

Assoctate Professor La Barre
[Admission only by consultation with the instructor.]

## iI. COMMUNITY, Race and culture

(Course 91-92, or 101 , or 111 or 112 prerequisite for all courses.)
133. Sociology of the South.-The developing regional organization of the world economy studied with especial reference to Southern life and problems. A survey of the composition and distribution of population, races and race relations; economic conditions underlying population, race factors and culture of the South. Primary emphasis is upon social change and its control. 3 s.h.
[Not offered in 1950-51]
Professor Thompson
134. Human Ecology.-A study of the human community in its competitive and cooperative aspects. 3 s.h.

Professor Thompson
136. Human Migration.-A study of mankind in motion, including a consideration of the nature of migration, types of migration and settlement, and problems of migratory contacts. 3 s.h. Professor Thonpson
[Not offered in 1950-51]
137. The Negro in America.-A study of the history and changing status of the Negro regarded as a symbol and protagonist of minority groups in America and elsewhere. 3 s.h.

Professor Thompson
233. Rural Sociology.-The sociology of the land: peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life: rural problems. 3 s.h. Second semester. Professor Thompson [Offered in Summer Session, 1950]
235. Urban Sociology.-A study of the city and civilization, the newspaper, the social survey, the slum and housing, neighborhoods and natural areas, urban institutions, urban problems, and city planning. 3 s.h.

Professor Thompson
237. Community and Society.-This course seeks to provide a frame of reference for the analysis and ordering of facts pertaining to the diverse cultures of the world, the State, the world community, the Great Society, news, mass behavior, social problems, races and classes. 3 s.h.

Professor Thompson
238. Race and Culture.-A study of the nature of race and of the relationships and problems of race. 3 s.h.

Professor Thompson
[Offered in Summer Session, 1950]

## iII. COLLECTIVE BEHAVIOR

(Course 91-92, or 101, or 111 or 112 prerequisite for all courses.)
149. Introduction to Child Welfare.-A study of heredity and environment as factors in personality development: infant conservation; welfare responsibilities of the school, emphasizing the physical and mental well-being of the child, play, and compulsory and industrial education; child labor, diagnosis and treatment of delinquency: care of the dependent and neglected child; child-caring agencies, public and private; and a community program of child welfare. 3 s.h.
243. Social Attitudes and Collective Behavior.-Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns; expression of social attitudes in social, political and industrial groups; social unrest and the behavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. 3 s.h. (w)

Associate Professor Schettler
246. Public Opinion and Propaganda.-Nature and development of public opinion; relation to attitude, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. 3 s.h. (w)

Associate Professor Schettler
249. Child Welfare.-A special course in child welfare designed primarily for graduates. Not open to students who have had course 149. Prerequisite: course $91-92,101,111$ or 112.3 s.h. (E)

Professor Jensen
[Offered in Summer Session 1950]
250. Marriage and the Family.-An analysis of contemporary marriage and family experience with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 3 s.h. (E)

Profegsor Hart

## IV. SOCIAL ORGANIZATION AND DISORGANIZATION

## (Course 91-92, or 101, or 111 or 112 prerequisite for all courses.)

153. The Fields of Social Work.-A non-professional course, designed to acquaint the student with the types of problems existing in both rural and urban communities which can be dealt with in a remedial and preventive way, how they arise in the reciprocal interaction of personality and culture, what their effects are in terms of personal and social disorganization, how communities are organized to deal with them, and social agencies which have been developed to deal with problems of each type, together with an evaluation of effectiveness of the techniques employed. 3 s.h. (E)

Assistant Professor Whitridge
157. Social Change and Social Control.-Basic nature of inventions as related to ideological and material factors: role of the inventor, reformer, and non-conformist: mobility, diversification and individualism as by-products of social change; techniques of social control in the family, school, church, industry and government; social plaming and leadership in a dynamic society. 3 s.h. (E)

Associate Professor Schettler
158. Sociology of the Professions and Occupations.-Analysis of the professional and occupational structure of the American economy; shifts and trends in occupations and professions for men, women and minority groups; social and economic characteristics of occupational and professional groups; iactors in the selection of a profession or occupation; sources of information about occupations and professions: measurements of aptitudes, abilities and skills; employer-employee relationships. 3 s.h. (E)

Associate Professor Schettler
262. Education and the Cultural Process.-A study of education (1) as carried on traditionally among preliterate and folk peoples, and (2) as it becomes a problem in racially and culturally complex societies like that of the Lnited States. 3 s.h.

Professor Thompson
[Not offered in 1950-51]
271. Social Pathology.-A study of the causes, extent, significance, and constructive treatment of the principal forms of pathology in modern society; poverty, physical defectiveness, malnutrition, mental deficiency, mental disease, undirected leisure activities and unstandardized commercial recreation, alcoholism, prostitution, vagrancy, and delinquency. 3 s.h. (e) Professor Jensen
273. Special Problems in Social Pathology.-Research projects in social and personal disorganization, limited to advanced students with the approval of the instructor. 1 to 3 s.h. each scmester. (w) Professor Jensen
276. Criminology.-A study of the original tendencies of man and the problem of socializing these tendencies; the relations of physical and mental defectiveness and untoward influence in the home and neighborhood to crime; the development of criminological theory and procedure, emphasizing penal and reform methods, and especially modern methods of social treatment and prerention of crime. 3 s.h. (w) Professor Jensen
277. Juvenile Delinquency.-An intensive study of current research findings as to the nature, causes, extent and distribution of juvenile delinquency; individual and institutional methods of treatment and prevention; diagnostic clinics, juvenile courts and probation, training schools, coordinating councils and preventive agencies. 3 s.h.
[Not offered in 1950-51]

## V. SOCIAL THEORY

(Course 91-92, or 101, or 111 or 112 prerequisite for all courses.)
286. Social Ethics.-A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature oi social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 3 s.h. (w)

Professor Hart
288. Contemporary Problems in Cultural Lag.-An exploration of such sociological problems as social evolution, cultural lag, conflict, accommodation, leadership, and social reform, in relation to the crisis of civilization precipitated by the development of the atomic bomb and by kindred discoveries and inventions. 3 s.h. (w)

Professor Hart

## VI. METHODS OF SOCIAL RESEARCH

(Course 91-92, or 101, or 111 or 112 prerequisite for all courses.)
191. Principles of Social Case Investigation.-A non-professional course designed to acquaint the student with the basic research techniques employed in the case study of the interrelationships of personality and culture in various fields of sociological and anthropological interest. 3 s.h. (E)

Associate Professor $W$ hitringie
291. Statistical Methods in Sociology.-Deals with the processes of definition, classification, measurement, tabulation, association, correlation, comparison of averages and of percentages, causation, prediction, preparation, and interpretation of charts and graphs, as applied to and illustrated by sociological data. 3 s.h. (w)

Proffesor Hart
293. Special Problems in Social Statistics.-Applications of statistical techniques to specific research topics. Limited to adranced students with permission of the instructor. 1 to 3 s.h. each scmester. Professor Hart

DEPARTMENTAL MAJOR
Sociology 91-92 or 101 and twelve additional hours, at least six semester hours of which must be Senior-Graduate courses.

## ZOOLOGY

IROFESSOR GRAY, CHAIRMAN; ASSOCIATE PROFESSOR BOOKHOUT, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR ROBERTS, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSOR HARGITT; ASSOCIATE PROFESSORS HUNTER, WHARTON, AND WILBUR; ASSISTANT PROFESSORS

BAILEY, HORN, AND JOHNSON; AND ASSISTANTS

## UNDERGRADUATE COURSES

1. General Zoology.-A brief survey of the animal kingdom. 4 s.h. (w \& E) Assoclate Professors Bookhout and Hunter; and Staff
2. Animal Biology.-The principles of biology as applied to animals. Prerequisite: Zoology 1. 4 s.h. (w \& E)

Associate Professor Hunter and Assistant Professor Roberts and Staff
53. Comparative Vertebrate Anatomy.-A study of the anatomy and evolution of the organ systems of vertebrates. Prerequisites: Zoology 1, 2. $4 \mathrm{~s} . \mathrm{h}$. ( $\mathrm{W} \& E$ ) Assistant Professor Johnson; and Staff
92. General Embryology.-A study of the fundamental principles of embryology as illustrated in the frog, chick and mammal. Prerequisite: Zoology 53. 4 s.h. (w \& E) Assistant Professor Johnson and Staff
109. Evolution.-The facts and theories of organic evolution. Prerequisite: two years of zoology. 2 s.h. (w) Assistant Professor Bailey
110. Introduction to Genetics.-The principles and practical applications of genetics as applied to animals, including man. Prerequisite: one year of zoology. 2 s.h. (w) Assistant Professor Johnson and Associate Professor Wharton
120. Ornithology.-Lectures, laboratory and field trips dealing with the classification, adaptations, and natural history of birds. Prerequisite: one year of zoology. Zoology 53 recommended. 4 s.h. (w) Assistant Professor Bailey
152. Comparative Physiology.-Comparative studies of the physiological processes of invertebrate and vertebrate animals. Prerequisites: one year of zoology and at least one year of chemistry. 4 s.h. (w)

Associate Professor Wilbur
156. Vertebrate Histology.-The microscopic structure of normal tissues and organs of the vertebrate body. Training will be given in the preparation of material for microscopic study. Prerequisite: Zoology 53. 4 s.h. (w)

Professor Hargitt
161. Animal Parasites.-With emphasis upon those infesting man. Prerequisite: one year of zoology. 4 s.h. (w) Associate Professor Wharton
193. Fundamentals of Zoology.-The principles involved in the study of structure, function, ecology, genetics, classification, and evolution of animals. An elementary course without laboratory designed for senior students. Not open to students who have had previous courses in zoology. 3 s.h. (w)

Professor Gray
196. Seminar: Current Developments in Zoology.-Prerequisites: Zoology 53,92 , and 152 or 271 . Open only to seniors. 2 s.h. (w)

Staff

## FOR SENIORS AND GRADUATES

202. Helminthology.-Classification, morphology, and host relations of parasitic worms. Lectures, readings, reports and laboratory work. Offered in alternate years. Prerequisite: Zoology 161. 4 s.h. (w)

Associate Professok Hunter
204. Advanced Parasitology.-Lectures, conferences, readings, and laboratory work, dealing with practical and theoretical matters relating to animal parasites. Offered in alternate years. Prerequisite: Zoology 161. 4 s.h. (w)

Associate Professor Wharton
219, 220. Special Problems.-Senior majors who have had proper training may be permitted to carry on special work. Permission must be obtained from the Director of Undergraduate Studies and the instructor under whom the student wishes to work. Not more than 4 s.h. (w \& E) Staff
222. Entomology.-A study of anatomy, physiology, embryology, and classification of insects. Offered in alternate years. Prerequisite: one year of zoology. 4 s.h. (w) Professor Gray
224. Vertebrate Zoology.-A study of life histories, adaptations, ecology and classification of vertebrate animals. Offered in alternate years. Prerequisite: Zoology 53. 4 s.h. (w)

Professor Gray
229. Endocrinology.-The structure, physiology, and embryology of the endocrine glands. Lectures, reading assignments, reports and laboratory work. Prerequisites: Zoology 53, 92. 4 s.h. (w)
238. Systematic Zoology.-The fundamental theory and practice involved in the collection, identification, and classification of animals. Offered in alternate sears. Prerequisites: Zoology 1, 2. 4 s.h. (w)

Assoclate Professor Wharton
253. Advanced Vertebrate Morphology.-Lectures, reports, and reading assignments in the comparative morphology of the vertebrates, with particular emphasis on theories concerning the interrelationships of vertebrates and the origin of certain vertebrate structures. Advanced laboratory study of structure in selected groups of vertebrates. Offered in alternate years. Prerequisites : Zoology 53, 92. 4 s.h. (w) Assistant Professor Horn
271. General Physiology.-The physiological processes of living matter approached through studies of cells and tissues. Prerequisites: two years of biology and at least one year of chemistry. 4 s.h. (w)

Associate Professor Wilbur
274. Invertebrate Zoology.-A study of structure, function, and habits of invertebrate animals under normal and experimental conditions. Field trips will be made to study, collect, and classify animals in their natural habitats. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (w)

Associate Professor Bookhout
276. Protozoology.-The morphology, physiology, taxonomy, and culture of protozoa. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (w)

Associate Professor Bookhout
278. Invertebrate Embryology.-Lectures, readings and laboratory work dealing with culture, life history and development of invertebrates. Offered in alternate years. Prerequisite: Zoology 92. 4 s.h. (w)

Associate Professor Bookhout
For summer courses in Marine Biology consult the Bulletin of the Duke University Marine Laboratory.

RELATED COURSES, ONE OF WHICH MAY BE COUNTED TOWARD A MAJOR IN ZOOLOGY
Botany 101. Principles of Heredity.- 3 or 4 s.h. (w)
Associate Professor Perry

Botany 103. General Bacteriology.-4 s.h. (w \& E) Mr. Warren
Botany 202. Genetics.-4 s.h. (w) Assoclate Professor Perry
DEPARTMENTAL MAJOR
Prerequisites: Zoology 1 and 2.
Major Requirements: Twenty-four semester hours including courses 53, 92 and 152 or 271 . The remaining twelve hours may be from any other courses for which the student is eligible. Related work, usually chosen from courses in botany, chemistry, geology, mathematics, and physics, must include at least one year of chemistry.

## THE COLLEGE OF ENGINEERING

## ADMISSION

Students may qualify for admission to the College of Engineering as members of the Freshman Class or as a student with advanced standing. Since the enrollment in the College is limited, the Committee on Admissions will select the students who, in its opinion, are best qualified to benefit from the educational advantages which the College has to offer. Prospective students and relatives are invited to visit the University and the College of Engineering in particular. This would be advantageous to the applicant, since it would enable him to acquaint himself with the facilities of the University and to discuss possible courses of study.

All correspondence relating to admission of men should be addressed to the Secretary of Duke University, Duke Station, Durham, N. C.

## GENERAL REQUIREMENTS

An applicant for admission to the Freshman Class in engineering must have completed at least fifteen units of preparatory work, partly in required and partly in elective subjects. For a detailed explanation of the units in the table below, see the definitions as set forth by the Southern Association of Colleges and Secondary Schools and other regional associations.

The subjects in which this credit may be offered and the maximum amount of credit acceptable in each subject are given in the following table:
UNITS

UNITS
English 4 Botany ..... 1
Latin 4 Zoology ..... 1
Greek 3 General Biology ..... 1
German 3 Physical Geography ..... 1
French 3 General Science ..... 1
Spanish 3 Agriculture ..... 2
Mathematics 4 Mechanical Drawing ..... 2
History and Civics 4 Shop Work ..... 2
Physics 1 Art ..... 1
Chemistry 1 Music ..... 1
Commercial Subjects ..... 3

## Required Units

Seven of the fifteen units required for admission must be:
English ............................................................... . . . 3 units

Physical Science ..................................................... 1 unit
Algebra ................................................................. . . 1 I $1 / 2$ units
Plane Geometry ........................................................ . . . 1 unit
*Solid Geometry ....................................................... . . $1 / 2$ unit

## Elective Units

In addition to the above seven required units, sufficient elective units must be offered to make a total of fifteen. At least five of the additional units must be in English, foreign language, history and social studies, mathematics, and natural or physical science. It is recommended that these electives be chosen from the following list:
English (in addition to the required 3 units) ............. 1 unit
Algebra (in addition to the reguired $11 / 2$ units) ........... $1 / 2$ unit
Trigonometry .................................................... $1 / 2$ unit
Physics or Chemistry or Biology (in addition to the
required unit)
1 to 3 units
Foreign Languages ............................................. 1 to + units
$\dagger$ History or Social Studies ................................... 1 to 3 units
The three additional units needed to make the total of fifteen may be in the subjects listed above or they may be selected at large from the table under the heading General Requirements.

## ADMISSION BY CERTIFICATE

A graduate of an accredited school, who submits fifteen acceptable mints of secondary school subjects, is recommended by his principal, and otherwise meets the requirements of the Admissions Committee, may be admitted without examination. The certification and recommendation must be on blanks furnished by the College and signed by the principal of the school in which the applicant completed his course.

## ADMISSION BY EXAMINATION

Students who present 15 units for admission from schools not accredited by the University, and students who present the proper units but whose grades are not acceptable, are required to validate their units by entrance examinations in English and in mathematics, and such other tests as the University may prescribe.

## ADMISSION TO ADVANCED STANDING

Students may be admitted to advanced standing from other approved institutions under the following conditions: all applicants must have fulfilled the equivalent of the requirements for admission to the Freshman Class, must present official certificates of all work done in other institutions, and must have an honorable dismissal from the institutions they previously attended.

[^18]Applicants for advanced standing should present, so far as possible, subjects corresponding to those required at Duke University. Students admitted to advanced standing may not, during their first semester, elect more than the minimum number of hours required of the class which they cnter except by permission of the Dean of Engineering.

Students who have transferred from other colleges must, in order to make their provisional classification final, pass during their first year of residence not less than the equivalent of four year-courses with an average grade of "C" or higher.

## ADMISSION OF SPECIAL STUDENTS

Students of mature age not fully prepared to enter the Freshman Class may be admitted as special students and allowed to enroll for such work as they are prepared to carry. Further, they are required to take 15 hours of classwork a week.

## READMISSION OF FORMER STUDENTS

A student, who, following withdrawal from College, desires to return, should apply to the Committee on Admissions. When applying for readmission the student should make a detailed statement of his or her activities since withdrawal from College.

## PRELIMINARY TESTS AND EXAMINATIONS

General ability and achievement tests are administered to all entering students during an orientation period at the beginning of each semester. These tests enable the appropriate adviser to prepare a course of study adapted to the ability and achievements of the individual student. Physical examinations are given also.

# REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL, ELECTRICAL, OR MECHANICAL ENGINEERING 

## GENERAL STATEMENT

The studies for degrees in Engineering are designed for students who are preparing for civil, electrical, or mechanical engineering as a profession and lead to the following degrees: B.S. in C.E., B.S. in E.E., and B.S. in M.E. All curricula of the College of Engineering are fully accredited by the Engineers' Council for Professional Development.

Credit for 148 semester hours and at least 148 quality points is required for each of these degrees. A grade of "F" carries neither semester hours nor quality points. The work of the senior year (a minimum of 36 semester hours) must be taken in residence. The following course work must be completed with the exceptions noted above in accordance with the academic regulations as stated on pages 161-165 of this Bulletin.

## GROUPS OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE iN CIVIL, ELECTRICAL, OR MECHANICAL ENGINEERING

See the Bulletin of the College of Engincering for courses substituted by Air ROTC and Naval ROTC students in the following curricula.

| Uniform Freshman Ycar |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FIRST SEMESTER |  |  |  | SECOND SEMESTER |  |
|  |  | S.H. |  |  | S.II. |
| Math 5 | College Algebra | 3 | Math 50 | Analytic Geometry |  |
| Math 6 | Trigonometry | . 3 | Math 51 | Calculus I ....... |  |
| Chem 1 | Chemistry | 4 | Chem 2 | Chemistry |  |
| Engl 1 | English . | 3 | Engl ? | English . |  |
| Hist E1 | History | . 3 | Hist E2 | History |  |
| G.E. 1 | Drawing ...... | . 2 | G.E. 2 | Descriptive Geomet |  |
|  | Physical Educatio | . 1 |  | Physical Education |  |
|  |  | 19 |  |  | 19 |

## GROUP ONE

## Civil Engineering

Sophomore Year

Junior Year
Engl 93 Advanced Composition .. 3 Engl 151 Public Speaking ......... 3
G.E. 58 Dynamics ............... 3 G.E. 128 Hydraulics ............... 3
C.E. 131 Structures ............... 5 C.E. 132 Structures .................. 5
C.E. 113 Route Surveying ........ 3 C.E. 118 Materials ................. 3
E.E. 123 Electric Circuits ......... 4 E.E. 124 Electric Machinery ..... 4
$18 \quad 18$
Scnior Jear
C.E. 123 Water Supply ......... 4 C.E. 124 Water Purification .... 3
C.E. 135 Soils .................... 3 C.E. 116 Highways ............... 3
C.E. 133 Reinforced Concrete ... 4 C.E. 140 Indeterminate Structures 3
M.E. 103 Heat Power ............ 3 C.E. 144 Projects ................. 2
M.E. 115 Mech. Eng. Laboratory 1 II.E. $10+$ Heat Power ............ 3

Elective (NonTechnical)
M.E. 116 Mech. Eng. Laboratory 1 Elective (Non Technical)3

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## GROUP TWO

## Electrical Engineering

Sophomore Year

| FIRST SEMESTER |  |  |  | second semester |
| :---: | :---: | :---: | :---: | :---: |
| Math | 52 | Calculus II ............ 3 | Math 53 | Calculus III ........... 3 |
| Phys | 51 | Physics................ 5 | Phys 52 | Physics |
| Econ | 51 | Economics ............. 3 | Econ 52 | Economics ............. 3 |
| G.E. | 57 | Statics ................ 3 | M.E. 52 | Kinetics-Mechanism |
| E.E. | 51 | Survey-Electrical Engineering ......... 1 | E.E. 52 | Fields $\ldots$ Physical Education ........ 1 |
| Eng1 | 93 | Advanced Composition . 3 |  |  |
|  |  | Physical Education .... 1 |  | 19 |
|  |  | 19 |  |  |
| Junior Year |  |  |  |  |
| E.E. | 101 | Circuits ............. 3 | E.E. 102 | Circuits ............. 3 |
| E.E. | 107 | Circuits Laboratory ... 1 | E.E. 108 | Circuits Laboratory |
| E.E. | 105 | Measurements ......... 4 | E.E. 106 | Electronics............ 4 |
| Math | 131 | Differential Equations . 3 | E.E. $1+8$ | D-C Machinery ....... 3 |
| M.E. | 103 | Heat Power ........... 3 | 11.E. 104 | Heat Power .......... 3 |
| M.E. | 115 | Mech. Eng. Laboratory 1 | M.E. 116 | Mech. Eng. Laboratory |
| G.E. | 128 | Hydraulics ............ 3 | Engl 151 | Public Speaking ....... 3 |

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Senior Year
E.E. 257 A-C Machinery ........ 3 E.E. 258 A-C Machinery ......... 3
E.E. 163 Nachinery Laboratory .. 1 E.E. 164 Machinery Laboratory .. 1
E.E. 261 Communications ....... 4 E.E. 262 Communications ......... \&
E.E. 165 Seminar ................. 1 E.E. 166 Seminar .................. 1
E.E. 159 Transmission ........... 3 G.E. 107 Strength of Materials .. 3
E.E. Elective ................. 3 G.E. 109 Materials Laboratory ... 1

Elective (Non- E.E. Elective ................ 2
Teclnical) ............. 3
Elective (Non-

GROUP THREE
Mechanical Engineering
Sophomore Year
FIRST SEMESTER SECOND SEMESTER

| Math 52 | Catculus II ........... ${ }^{\text {S.H. }}$ | Math 53 | Calculus III ............ 3 |
| :---: | :---: | :---: | :---: |
| Phys 51 | Physics ................ 5 | Phys 52 | Physics |
| Econ 51 | Economics . . . . . . . . . . . . 3 | Econ 52 | Economics |
| G.E. 57 | Statics . . . . . . . . . . . . . . . 3 | M.E. 52 | Kinetics-Mechanism ..... 4 |
| M.E. 55 | Steam Engineering ..... 2 | Engl 93 | Advanced Composition .. 3 |
| M.E. 51 | Constructive Processes .. 3 <br> Physical Education |  | Physical Education ..... 1 |
|  | 20 |  | 19 |
|  | Junior | Year |  |
| M.E. 101 | Thermodynamics . . . . . . 3 | M.E. 102 | Thermodynamics . . . . . 3 |
| M.E. 113 | Mech. Eng. Laboratory 1 | M.E. 114 | Mech. Eng. Laboratory 2 |
| M.E. 105 | Fluid Mechanics ....... 3 | M.E. 108 | Aeronautics ........... 3 |
| G.E. 107 | Strength of Materials .. 3 | M.E. 106 | Heat Transfer ......... 3 |
| G.E. 109 | Materials Laboratory .. 1 | M.E. 150 | Machine Design ....... 3 |
| E.E. 123 | Electric Circuits ....... 4 | E.E. 124 | Electric Machinery .... 4 |
| Eng1 151 | Public Speaking ...... $\frac{3}{18}$ |  | $\overline{18}$ |

Scnior Year
M.E. 151 Machine Design ....... 4 M.E. 158 Industrial Engineering . 3
M.E. 155 Internal Combustion M.E. 162 Power Plants ......... 3

Engines ................ 3
M.E. 153 Heating-Air $\quad$ Conditioning ......... 3
M.E. 160 Mech. Eng. Laboratory 2

Conditioning........
$\begin{array}{ll}\text { M.E. } 159 & \text { Mech. Eng. Laboratory } 2 \\ \text { M.E. } & \text { Engineering Elective .. } 3\end{array}$
Elective (NonTechnical) ........... 3
M.E. Engincering Elective ... 3
Elective (Non-
Technical) ........... 3
3 17

# COURSES OF INSTRUCTION COLLEGE OF ENGINEERING 

PROFESSOR HALL，DEAN゙；PROFESSOR BIRD，CHAIRMAN，CIVIL ENGINEERING；PRO－ FESSOR SEELEY，CHAIRMAN，ELECTRICAL ENGINEERING；PROFESSOR R．S．WIL－ BL゙R，CHAIRMAN，MECHANICAL ENGINEERING；ASSOCIATE PROFESSORS MEIER，REED，AN゙D SNOW；ASSISTANT PROFESSORS EGERTON，HAIN゙ES， KENYON，KRAYBILL，LEWIS，PALMER，VAIL，AND WILLIAMS； MESSRS．BROWN，DAVIS，HARDY，HATLEY，HOLLAND， MARTIN，MORGAN，SLAUGHTER，RABIN，L．C．<br>WILBUR，AND WILDER

## GENERAL ENGINEERING

1．Engineering Drawing．－The study of mechanical drawing with em－ phasis on third angle projection，pictorial drawing，dimensioning，working drawings，pencil and ink techniques． 2 s．h． Staff
2．Descriptive Geometry．－A study of drawing board geometry with em－ phasis on line and plane problems，developments，and intersections．Further emphasis on drawing techniques．Prerequisite：G．E．1． 2 s．h．Staff

57．Statics．－Concurrent forces，parallel forces，nonconcurrent and non－ parallel forces，centroids，friction，moment of inertia．Prerequisite：G．E．1， G．E．2．Mathematics 52 concurrent． 3 s．h． Staff
58．Dynamics．－Translation，rotation，work，energy，and momentum．Pre－ requisites：G．E． 57 and Mathematics 52． 3 s．h．Staff

101．Construction Methods．－Principles of scientific management as set forth by Gilbreth and Taylor；selection of materials and accumulation of cost data；use of modern equipment and methods：job design，description，selection and placement of personnel．Prerequisite：Junior standing． 3 s．h．
［Offered only upon sufficient demand；enrollment limited．］Mr．Wilder
102．Motion and Time Study．－Fundamentals of stop－watch time study； effort（tempo）rating；uses of time study，and relationships between time study， motion study，and wage incentives；micromotion study；motion economy prin－ ciples and their applications；standard data－derivation and application．Pre－ requisite：Junior standing． 3 s．h．

Mr．Wilder
［Offered only upon sufficient demand；enrollment limited．］
107．Strength of Materials．－Elastic bodies under stress：flexure of simple， overhanging，fixed，and continuous beams：columns；combined stresses，etc． For Civil Engineering students，the laboratory work is included in course C．E． 118．Other students should take course G．E． 109 for laboratory．Prerequisite： G．E．57． 3 s．h．

Staff
109．Strength of Materials Laboratory．－Concurrent with course G．E． 107． 1 s．h．Either semester． Staff

128．Hydraulics．－Hydrostatics：flow of water through orifices，weirs． pipes．and open channels；general principles of water wheels and turbines．Pre－ requisite：G．E．57． 3 s．h．Either semester．

Staff

## CIVIL ENGINEERING

IRROFESSORS BIRD AN゙D HALL；ASSOCIATE PROFESSOR SNOIV；ASSISTANT PROFESSORS LEWIS，PALMER，AND WILLIAMS；MESSRS．BROWN，DAVIS，AND WILDER
61．Plane Surveying．－U＇se of instruments；transit，stadia and compass surveying；determination of meridian by observation on Polaris；differential and profile leveling；setting grade stakes；calculation of bearings，latitudes，
departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: G.E. 1 and trigonometry. 4 s.h.

Mr. Brown
62. Advanced Surveying.-Simple triangulation; topographic surveying using stadia and plane table; laying out and division of land; public land system; calculations; grading plans and quantities; determination of azimuth by H. O. 211. Prerequisite: C.E. 61. 4 s.h. Mr. Brown
108. Advanced Strength of Materials.-Applications of Mohr's circle, deflections, and energy of strain to advanced problems. Prerequisite: G.E. 107. 3 s.h.

Assistant Professor Williams
[Offered only upon sufficient demand; enrollment limited.]
S110. Plane Surveying.-The equivalent of C.E. 61 given especially for students in forestry. See Bulletin of Summer Scssion. 4 s.h. Staff
113. Route Surveying.-Thorough drill in the calculation and laying out of simple, compound, and easement curves; widening of curves; vertical curves; setting slope stakes; ordinary earthwork computations and mass diagrams. Prerequisite: C.E. 61.3 s.h.

Assistant Professor Williams
116. Highway Engineering.-Location, design, construction and maintenance of highways and city streets; soil stabilization; traffic studies; economics of planning and design. Prerequisites: C.E. 113, C.E. 135. 3 s.h.

Assistant Professor Willians
118. Materials of Engineering.-Study and testing of materials commonly used in civil engineering; proportioning concrete. Prerequisite: G.E. 107 or concurrent. 3 s.h.

Assistant Professor Williams
120. Engineering Statistics.-Statistical methods applied to engineering problems. Typical engineering data analyzed to illustrate arithmetically and geometrically normal distributions; binomial distribution; Poisson's distribution. Testing data of engineering materials and the use of student's distribution. Sequential analysis and control of production quality. 3 s.h.

Associate Professor Snow
[Offered only upon sufficient demand: enrollment limited.]
121. Hydrology.-Fundamentals of meteorology; precipitation; evaporation. Ground water development. Stream flow and stream gaging. Hydrograph analysis. Flood control. Field trips to be arranged. Prerequisite: G.E. 128. 3 s.h.

Associate Professor Snow
[Offered only upon sufficient demand; enrollment limited.]
123. Water Supply and Sewage.-Statistical analysis of rainfall and runoff records; population estimation; analysis of the yield of watersheds and storage requirement; design of water distribution systems; design of sanitary and storm sewerage systems. Prerequisite: G.E. 128. 4 s.h.

Associate Professor Snow
124. Water Purification and Sewage Treatment.-Chemical and bacteriological analysis of water and sewage effluents; design of water purification treatment systems; design of sewage treatment plants. Prerequisite: C.E. 123. 3 s.h.

Associate Professor Snow
128. Industrial Water Supplies.-Water quality for industrial uses. Analytical techniques and interpretation of results. Boiler feed water requirements; softening; ion exchange; deaeration, priming; foaming; corrosion; embrittlement. Control of treatment processes. Prerequisite: Chemistry 1-2. 3 s.h.

Associate Professor Snow
[Offered only upon sufficient demand; enrollment limited.]
129-130. Elementary Structures.-Stresses in beams and trusses for fixed and moving loads. Deflection of beams and trusses. Design of tension, compression, and flexural members; comnections ; and plate girders. Design of re-
inforced concrete beams, slabs, columns, footings, and retaining walls. (For students not majoring in Structural Engincering.) Prerequisite: G.E. 107. 6 s.h. Assistant Professor Palmer [Offered only upon sufficient demand; enrollment limited.]
131. Structures.-Analysis and Elementary Design.--Stresses in roofs, parallel and inclined chord bridges, including sub-divided panels, by algebraic and graphic methods under all conditions of loading; shear and moments in frames and bents: influence lines; Williot diagram. Structural drafting, details in stcel and wood; methods of fabrication and erection. Prerequisites: G.E. 57,107 . 5 s.h.

Assistant Professor Palmer
132. Structures.-Design.-Tension, compression, flexural members, end posts, eccentric comections, unsymmetrical bending: riveted and welded plate girders; trusses and office building frames; wind analysis. Design and detail drawings. Prerequisite: C.E. 131. 5 s.h.

Assistant Professor Palmer
133. Reinforced Concrete.-Theory and design of reinforced concrete beams, slabs, and columns including eccentric loads; footings; retaining walls. Prerequisite: G.E. 107. 4 s.h. Professor Bird
135. Soil Mechanics.-Identification and classification: flow nets; frost action; stability of foundations, cuts and cmbankments, and retaining walls; settlement. Laboratory includes identification, permeability, shear, unconfined compression, consolidation and compaction tests. Prerequisite: G.E. 107. 3 s.h.

Professor Bird
137-138. Seminar.-Students are required to make reports and to talk on current engineering literature or on such other topics as may be assigned. 2 s.h.

Staff
[Offered only upon sufficient demand; enrollment limited.]
140. Indeterminate Structures.-Application of icast work, slope deflection, moment distribution, and column analogy. Analytic, graphic, and experimental methods are used. Prerequisites: C.E. 131, C.E. 133. 3 s.h.

Professor Bird
142. Hydraulic Engineering.--Statical and dynamical principles of fluids applied to specific engineering problems. Effects of gravity, viscosity, compressibility, and surface tension on fluid motion in closed conduits and open channels; surface and form resistance; dimensional analysis and theory of models. Non-uniform flow in open channels. Hydraulic jump, backwater curves. Hydraulic problems of flood control, flood routing. Dam design. Prerequisite: G.E. 128 or M.E. 105. 3 s.h. Assistint Professor Williams
[Offered only upon sufficient demand; enrollment limited.]
143-144. Projects in Civil Engineering.-This course may be assigned by the Chairman of the Department to certain seniors who have shown an aptitude for research in one distinct field of civil engineering, in which case it may be substituted for certain general civil engineering courses. 2-6 s.h. Staff

## ELECTRICAL ENGINEERING

professor seeley; chairman; associate professor meier; assistant profesSORS EGERTON, KRAYBILL, AND VAIL: MESSRS. HATLEY, MARTIN, AND SLAUGHTER
51. Survey of Electrical Engineering.-A course designed to give the student a general survey of the engineering profession, to define the scope of activities of the electrical engineer, and to provide an introduction to engineering problems. One two-hour computation. 1 s.h.

Assistant Professor Kraybill
52. Electric and Magnetic Fields.-An introductory course covering a mathematical and physical analysis of energy relations in electrostatic and
magnetostatic fields; resistance, capacitance and inductance of systems of conductors; systems of electric and magnetic units. Two recitations and one twohour computation. Prerequisites: E.E. 51, Mathematics 52. Physics 52 concurrently. 3 s.h.

Assistant Professor Vail
101-102. Circuits in Electrical Engineering.-A two-semester course covering methods of electric and magnetic circuit analysis applicable in all branches of electrical engineering; alternating and direct currents; the algebra of vectors and complex quantities; networks; nonsinusoidal waves; coupled circuits; transients; polyphase circuits; symmetrical components. Prerequisite: E.E. 52. Mathematics 131 concurrently. 6 s.h.

Assistant Professor Vail
105. Electrical Measurements.-A course covering direct-current and lowfrequency measurements; the theory, calibration, and use of laboratory standards, potentiometers, instrument transformers, and power and energy measuring apparatus; and audio-frequency measurements of impedance, current and potential. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 52. Mathematics 131 and E.E. 101 concurrently. 4 s.h. Mr. Slaughter
106. Electron Tubes and Circuits.-A course covering electronic emission, static and dynamic tube characteristics, rectification, glow-discharge tubes, amplifiers, oscillators, and other typical circuits. Three class sessions and one three-hour laboratory. Prerequisites: E.E. 101, E.E. 107, E.E. 102 and E.E. 108 concurrently. 4 s.h.

Mr. Slaughter
107-108. Circuits Laboratory.-A two-semester course designed to provide instruction in electrical laboratory techniques and in the preparation of engineering reports, and to provide experimental verification of the theory of course 101-102, with which it should be taken concurrently. One three-hour session. 2 s.h.

Assistant Professors Vail and Kraybill
123. Principles of Electric Circuits.-A course designed especially for students in other branches of engineering, covering fundamental electric units and both alternating and direct-current circuits. Three class sessions and one three-hour laboratory. Prerequisites: Mathematics 53 and Physics 52. 4 s.h. Assistant Proffssors Kraybill and Egerton ; Mr. Martin
124. Principles of Electric Machinery.-A course designed especially for students in other branches of engineering, covering the application of the principles of course E.E. 123 to alternating and direct-current machinery and associated apparatus. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 123.4 s.h.

Assistant Professors Kraybill and Egerton ; Mr. Martin
148. Direct-Current Machinery.-A study of the principles which underlie the design and operation of all types of direct-current generators, motors, and associated apparatus. Prerequisites: E.E. 101 and E.E. 107. E.E. 102 and E.E. 108 concurrently. 3 s.h. Associate Professor Meier and Mr. Martin
158. Electric-Power Stations.-A course providing a brief survey of the electric-power industry followed by a consideration of the economic and engineering features of power plant location and design, and by a study of the apparatus utilized in the generation, transmission and distribution of electric power. Prerequisites: E.E. 148, M.E. 104, and permission of instructor. E.E. 257-258 concurrently. Elective for electrical majors. 3 s.h.

Professor Seeley
[Offered only upon sufficient demand; enrollment limited.]
159. Transmission.-A development of the theory underlying the transmission of electric energy over conductors at both power and conmunication frequencies. Two class sessions and one two-hour computation. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, Mathematics 131. 3 s.h. Professor Seeley
160. High-Voltage Engineering.-An introductory study of high-voltage phenomena and their engineering applications: behavior of gaps and insulators upon application of power-frequency and impulse voltages; corona; properties of insulating materials; high-voltage measurements; elements of high-voltage design. Two class sessions and one three-hour laboratory. P'rerequisites: E.E. 52, E.E. 101-102, E.E. 106, and permission of instructor. Elective for electrical majors. 3 s.h. Assistant Professor Vail
[Offered only upon sufficient demand; enrollment limited.]
163-164. Electric Machinery Laboratory.-A study of the technique of testing electric machines and a thorough analysis of their performance. Concurrent with E.E. 257-258. One three-hour session, for two semesters. 2 s.h.

Associate Professor Meier and Mr. Martin
165-166. Electrical Engineering Seminar.-A course in which seniors are required to present oral reports and dissertations on material appearing in current engineering literature. Juniors may participate, but without credit. 2 s.h.

Staff
170. Fundamentals of Illumination.-A course designed to familiarize the student with some of the factors that influence seeing; to provide a working knowledge of lighting language, sources, and measuring techniques; and to acquaint the student with the basic factors involved in recommended lighting practice. Two class sessions and one two-hour computation. Prerequisites: E.E. $101-102$, E.E. 105, E.E. 106, and permission of instructor. Elective for electrical majors. 3 s.h.

Assistant Professor Kraybill
[Offered only upon sufficient demand; enrollment limited.]
173-174. Projects in Electrical Engineering.-A course which may be undertaken only by seniors who show special aptitude, or who may have had previous experience directly related to the proposed project. The consent of the Chairman of the Department must be obtained before registering. Elective for electrical majors. ${ }^{3-6}$ s.h.

Staff
[Offered only upon sufficient demand; enrollment limited.]
180. Radio-Frequency Transmission and Propagation.-Theory and application of transmission and propagation at high and ultra-high frequencies: impedance-matching elements; coupling devices; cavity resonators; wave guides and antennas. Two class sessions and one three-hour laboratory. Prerequisites : E.E. 159, E.E. 261, and permission of instructor. E.E. 262 concurrently. Elective for electrical majors. 3 s.h.
[Offered only upon sufficient demand; enrollment limited.]
197. Industrial Applications of Electrical Equipment.-A course of lectures, demonstrations, and recitations designed especially for students in other branches of engineering, dealing with the basic principles of utilization of a wide variety of electrical equipment in industrial practice. Emphasis is on industrial control, motor and generator applications, and electronic devices and applications. Prerequisite : E.E. $12+$ and permission of instructor. Elective for nonelectricals.

Associate Professor Meier
[Offered only upon sufficient demand; enrollment limited.]
198. Industrial Control--This course, open only to students majoring in electrical engineering, consists of a study of the electromagnetic and electronic control of electric motors in industrial applications. Prerequisites: E.E. 101102, E.E. 106, E.E. 148, E.E. 257, and permission of the instructor. E.E. 258 concurrently. Elective for electrical majors. 3 s.h.

Associate Professor Meier
[Offered only upon sufficient demand; enrollment limited.]
257-258. Alternating-Current Machinery.-A two-semester course dealing with the theory underlying the design, construction, and operation of synchronous generators, transformers, polyphase induction motors, synchronous motors,
single-phase motors of all types, and converters and rectifiers. Prerequisites: E.E. 101-102 and E.E. 148.6 s.h.

Associate Professor Meier and Mr. Martin
261. Communication Engineering: Low Frequency.-An advanced course dealing with the principles underlying voice-frequency communication. Included are the nature of sound and speech; wave propagation over metallic circuits; filters; resistance, inductance and capacitance at audio frequencies; transmission characteristics of audio-frequency communication equipment. Three class sessions and one three-hour laboratory. Prerequisites : E.E. 101-102, E.E. 106, and Mathematics 131. 4 s.h.

Mr. Hatley
262. Communication Engineering: High Frequency.-An advanced course dealing with the principles underlying communication at radio and ultra-high irequencies. lncluded are oscillating and coupled circuits, antennas, radiation, transmission, reception, and ultra-high frequency techniques. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 261. 4 s.h.

Mr. Hatley
263-264. Operational Circuit Analysis.-An advanced course covering the mathematical analysis of certain circuits used in electrical engineering, with an introduction to the application of operational calculus to circuit analysis. Prerequisites : E.E. 101-102, Mathematics 131, and permission of instructor. Elective for electrical majors. 6 s.h.

Professor Seeley
[Offered only upon sufficient demand; enrollment limited.]

## MECHANICAL ENGINEERING

PROFESSOR R. S. WHLBUR, CHAIRMAN ; ASSOCIATE PROFESSOR REED; ASSISTANT PROFESSOR KENYON ; MESSRS. HARDY, HOLLAND, MORGAN, RABIN, AND L. C. WILBUR
51. Constructive Processes.-Recitation course covering fundamentals of metallurgy and general processes of casting, forging, and machining. Demonstration or observation of basic machining operations is arranged when possible. Prerequisite: Chemistry 2. 3 s.h.

Messrs. Holland and Wilbur
52. Kinetics-Mechanism.-Motions of particles. Applications of Newton's Lazes of Motion to motions of rigid bodies. Work, energy, impulse, and momentum. Linkage, cams, gears, trains of mechanism. Three recitations, three laboratory hours. Prerequisites: G.E. 2, G.E. 57, Mathematics 52. 4 s.h. Associate Professor Reed and Mr. Hardy
55. Steam Engineering.-Elementary principles of boilers, engines, turbines, and auxiliaries; properties of steam; fuels and combustion. Prerequisite: Chemistry 2. 2 s.h.

Messrs. Morgan and Wilbur
101-102. Engineering Thermodynamics.-A study of thermodynamic properties and processes of gases, vapor and gas-vapor mixtures; cycles; efficiencies and performance of steam power plant equipment. Three recitations. Prerequisites: Mathematics 52, Physics 52, M.E. 55. 6 s.h.

Professor Wilbur, Associate Professor Reed, Assistant Professor Kenyon
103-104. Heat Power Engineering.-A short course in engineering thermodynamics with applications to power plant design, for C.E. and E.E. students only. Three recitations. Prerequisites: Chemistry 2. Mathematics 52, Physics 52. 6 s.h. Assistant Professor Kenyon, Messrs. Morgan and Wilbur
105. Fluid Mechanics.--Fluid statics; kinematics of fluid flow; application of fluid dynamics theory to flow through orifices, weirs, and pipes; general principles of centrifugal pumps and turbines. Prerequisites: M.E. 52, Mathematics 52, Physics 52.

Professor Wilbur and Mr. Morgan


#### Abstract

106. Heat Transfer.-Conduction, radiation and convection; heat transfer to boiling liquids or condensing vapors; over-all transfer of heat, steady state or variable flow. Applications to heat power, heating and air conditioning, and refrigcration. Prerequisites: M.E. 101 or 103, M.E. 105 or G.E. 128, Mathematics 52. M.E. 102 or 104 concurrently. May be elected by limited number of C.E. and E.E. studcnts. 3 s.h. Associate Professor Reed


108. Aeronautics.-A general course applying fluid mechanics principles to airfoils, propellers, and the complete airplane. Prerequisite: M.E. 105. 3 s.h.

Mr. Morgan
113-114. Junior Mechanical Engineering Laboratory.-Open only to mechanical engineering students. First semester, three laboratory hours, devoted to experiments and reports in hydraulics, flue gas analyses, calorific value of fuels. Second semester, six laboratory hours, devoted to experiments and reports related to thermodynamics, such as boiler inspection, air compression, injectors, steam and fuel calorimetry. Prerequisite: M.E. 55. M.E. 101-102 concurrently. 3 s.h.

Professor Wilbur and Staff
115-116. Junior Mechanical Engineering Laboratory.-Open only to electrical and civil engineering students. Expcriments and reports on measuring instruments and apparatus, flow of air, steam and water, economy of boilers, steam and internal combustion engincs. Three laboratory hours. M.E. 103104 concurrently. 2 s.h. Professor Wilbur and Staff

150-151. Machine Design.-Application of principles of mechanics, strength of materials, constructive processes and engineering drawing to the design of bolted, riveted and welded connections, pressure vessels and machine elements, followed by design of at least one complcte machine. M.E. 150 has two recitations and thrce laboratory hours; M.E. 151 has two recitations and six laboratory hours. Prerequisites: G.E. 2, M.E. 52, G.E. 57, M.E. 51, G.E. 107. 7 s.h.

Messrs. Holland and Wilbur
153-154. Heating, Air Conditioning and Refrigeration.-Determinations of heat losses and gains; design of steam, hot water and warm air heating and air conditioning systems; panel heating. Fundamentals of refrigeration theory and design. Applications of refrigeration to summer and year round air conditioning; commercial and industrial applications of refrigeration. Prerequisites: II.E. 102, M.E. 105, M.E. 106. M.E. 159-160 concurrently. Two recitations, three laboratory hours. 6 s.h.

Associate Professor Reed
155. Internal Combustion Engines.-Principal cycles: fuels and fuel mixtures; effect of real mixtures on theoretical cycles; combustion; carburetion and fuel injection. Thermodynamic analysis of engine performance. Modern developments in the internal combustion engine. Three recitations. Prerequisite: M.E. 101-102. 3 s.h.

Mr. Hardy
157. Centrifugal Pumps and Blowers.-A study of the basic principles of design, construction and application of centrifugal pumps and blowers. May be elected by a limited number of mechanical engineering seniors with consent of Chairman of Department. Prerequisite: M.E. 105. 3 s.h.

Professor Wilbur
158. Industrial Engineering.-A study of the industrial growth and present tendencies of productive industries as concerns the engincer. Specific topics treated are: plant location, organization, production and cost controls, wage payment, etc. Seniors only. Three recitations. 3 s.h.

Assistant Professor Lewis
159. Senior Mechanical Engineering Laboratory.-Tests and reports on performance and economy of internal combustion engines, steam engines and turbines; heat transfer, radiator tests, and energy balances. Required of all seniors in mechanical engineering. Six laboratory hours. Prerequisite: M.E. 114. M.E. 153 concurrently. 2 s.h. Professor Wilbur and Staff
160. Senior Mechanical Engineering Laboratory.-Required of all seniors in mechanical engineering. Tests and reports on boiler, engine, turbine, condenser and accessories; heat transfer; refrigeration equipment. Six laboratory hours. Prerequisite: M.E. 159. M.E. 154 and M.E. 162 concurrently. 2 s.h. Professor Wilbur and Staff
162. Power Plant Calculations.-Study of economic and engineering factors in developing steam power plants. Consideration of the performance of boilers, prime movers, condensers and various auxiliaries in various groupings as they affect the plant heat balance. May be elected by a limited number of C.E. or E.E. students. Three recitations. Prerequisite: M.E. 101-102 or 103104. 3 s.h.

Professor Wilbur
164. Engineering Analysis.-A study of a series of engineering problems with particular reference to mathematical and graphical methods of solution and engineering interpretation of results. 3 s.h.

Mr. L. C. Wilbur
[Offered only upon sufficient demand; enrollment limited.]
166. Air Conditioning Design.-Analysis of air-conditioning requirements, summer and winter, commercial and industrial. Design of systems and units, and selection of equipment. Open to seniors who have completed M.E. 153. 3 s.h.

Associate Professor Reed
197-198. Projects in Mechanical Engineering.-This course may be assigned by the Chairman of the Department to certain seniors who express a desire for such work and who have shown aptitude for research in one distinct field of mechanical engineering. Elective credit for either semester. $3-6$ s.h. Professor Wilbur and Staff

## ACADEMIC REGULATIONS

## ACADEMIC CALENDAR

The undergraduate colleges are operated on the two-semester plan: the autumn semester and the spring semester begin and end in accordance with the published calendar of this bulletin. Two semesters of seventeen weeks each constitute the academic year.

## MATRICULATION, REGISTRATION, AND ENROLLMENT

All new students must appear before the Committee on Admissions and obtain cards of admission which must be presented at the Treasurer's Office at the time of matriculation. All students, both old and new, are required to matriculate at the begimning of each semester and to obtain from the Treasurer certificates of matriculation before they can be registered in classes. Students matriculating in either semester at a date later than that prescribed in this catalogue shall pay to the Treasurer a penalty of $\$ 5.00$ for late registration. Students whose course cards have been approved in the spring in the manner provided below are given an opportunity during the summer to matriculate by mail for the first semester. No student without an enrollment card is admitted to any class. Students who enter after the beginning of the semester are marked absent in the work they have missed in the courses to which they are admitted, and these absences carry the same penalty as do other absences from the courses.

## COURSE CARDS

Members of the freshman, sophomore, and junior classes are required to submit to the Dean, not later than the date of spring registration, cards showing their selection of courses for the following year. These cards must be approved by the Dean. After being approved, the cards must be filed for permanent record in the Dean's office. Students who do not select their courses for the following year at the time appointed must pay a fee of $\$ 5.00$ to the Treasurer of the University before their course cards may be approved in the fall. The same regulations apply for the second semester. An advance deposit of $\$ 25.00$ is required before the spring registration for the fall semester.

Students whose course cards have been approved but who, for reasons not arising within the University, desire to make changes in the cards approved are required to pay to the Treasurer a fee of $\$ 1.00$ for each clange made.

No course may be elected later than two weeks after the opening of the semester.

If a student drops a course without permission from the Dean, the grade for that course shall be recorded as "F."

If a student drops with permission a course in which he is failing at that time, the grade for that course shall be recorded as " $F$ " unless, in the judgment of the Dean, circumstances do not justify this penalty.

## RESIDENCE REQUIREMENT

One year in residence (a minimum of 30 semester hours in the Colleges of Arts and Sciences and 36 in the College of Engineering) is required of all candidates for degrees. The work of the senior year must be taken in residence with the exception that one course of 6 to 8 semester hours in final fulfillment of requirements may be taken in another institution of approved standing, provided the course is approved by the head of the department concerned and by the Dean.

## DEFINITION OF CREDIT

The term of credit used is the semester hour, which signifies one recitation a week throughout the semester. Two or three hours of laboratory work are equivalent to one hour of class work.

## SEMESTER HOURS AND QUALITY POINTS

The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are the points earned by a student, according to his grades: for an "A" three quality points per semester hour ; for a " $B$ " two quality points per semester hour; for a "C" one quality point per semester hour ; for a " $D$ " no quality points: for an " $F$ " a loss of one quality point per semester hour. Credit for 124 quality points is required for the degree of Bachelor of Arts or Bachelor of Science. (See page 150 for special requirements in the College of Engineering.)

## HOURS OF CLASSWORK

The normal course load of an undergraduate student in the Colleges of Arts and Sciences is five academic courses, 14 to 17 semester hours, and the maximum number permitted is 19 semester hours, exclusive of physical education. In the College of Engineering the normal course is six academic subjects and 15 to 18 semester hours, exclusive of physical education. No student is permitted to take less than 14 semester hours work without special permission from the Dean nor to take more than the normal load of work unless his arerage grade in the preceding semester is higher than "C."

## CLASS STANDING

In the Colleges of Arts and Sciences to rank as a sophomore a student must have to his credit at least 26 semester hours and 26 quality points: as a junior at least 56 semester hours and 56 quality points; and as a senior at least 92 semester hours and 92 quality points. In the College of Engineering he must have. respectively, at least 30 semester hours and 30 quality points: 68 semester hours and 68 quality points; and 106 semester hours and 106 quality points.

## JUNIOR-SENIOR COURSE RESTRICTIONS

In the Colleges of Arts and Sciences no senior may take for graduation credit any course primarily open to freshmen; and no junior may take for graduation credit more than one course primarily open to freshmen. A list of these courses is published in the Bulletin under "Courses of Instruction."

## SENIOR WORK

A student of the Senior Class, irrespective of his average grade in preceding years, must, in order to be eligible for graduation, complete the work of his senior year with a minimum average grade of " C ".

## DEFICIENCIES IN COMPOSITION

The following regulations have been adopted by the Factilty:

1. Any student, who must take English 1 and whose score in the English placement test indicates that he is not yet ready for English 1, must earn a passing grade in English L before being permitted to enter English 1.
2. In the fall of his or her junior year every student of Trinity College and of the Woman's College must take an examination in English usage. The regulation does not apply to students of the College of Engineering, which has special course requirements in English composition in addition to the freshman year. Students with irregular schedules, resulting from acceleration or transfer to Duke after the fall of their junior year, should take the examination in the fall of the year most nearly approximating the fifth semester. Students who prove deficient in this examination will be required to complete satisfactorily a special, non-credit laboratory course in remedial English.
3. Whenever the work of a student in any course is considered to be unsatisfactory because of gross errors in English, the instructor may report the student to the Dean who will require him to enroll in remedial English until, in the opinion of the director, the deficiency is removed.
4. All instructors are requested to advise their students each semester concerning this regulation.

## EXAMINATIONS

Final examinations are held in all subjects in January and May.

## REGULATIONS REGARDING GRADES

Grades shall be reported so as to indicate one of four things:
(1) Passcd. A grade of "A," "B," "C," or "D" shall indicate that a student has passed a course. The work of this group of students shall be graded according to the following system: "A": exceptional; " B ": superior; "C": medium; "D": inferior.
(2) Failed. A grade of " F " shall indicate that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.
(3) Incomplete. (a) A grade of "I" may be reported by the instrucfor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester; otherwise the " I " is recorded as " F ," and the course must be repeated in class if the student is to receive credit for it.
(4) Absent from Final Examination. (a) The grade " X " shall indicate that the student was absent from the final examination. (b) A student absent from examination, if his absence has been excused by the Dean of the College, may receive an examination upon the payment of a fee of $\$ 3.00$ to the Treasurer of the University: The instructor concerned shall arrange for the examination in cases where absences are excused. (c) All students (with "N" grades), who have not obtained a passing grade before the end of the succeeding semester in which the " X " was incurred, are regarded as having failed in the course concerned and must repeat the work in class in order to receive credit. (d) If a student's absence from an examination is not excused by the Dean of the College, his grade for the course concerned shall be recorded as "F."

## CLASS ATTENDANCE AND ABSENCE REGULATIONS

Regular and punctual attendance in class work is expected of all students. Weekly reports of all absences from class are to be made by eacli instructor and filed in the Dean's office. No instructor has the authority to excuse a student from class attendance, and it is his duty to report all absences and tardinesses to the Dean's office. The first three tardies in a given course are counted as one absence, and each succeeding tardy is counted as one additional absence.

To provide for absences due to brief illness and other absences for necessary reasons, one absence per semester hour credit may be incurred in each course during each semester.

Absences due to continuous illness of at least four days' duration and authorized absences for representation of the University may be excused provided foresight has been used in previous absences.

Sophomores, juniors, and seniors who, in a normal schedule, make averages of " $B$ " or above in the preceding semester will be allowed two absences per semester hour but will, in all other respects, be sul)ject to the same regulations as other students.

All absences immediately before and after announced holidays are doubled.

For each unexcused excessive or consecutive absence, the student incurs the loss of quality points in proportion to the number of such absences taken; one quality point for the first absence, two for the second, and three for the third. When the third unexcused, excess, or consecutive absence is incurred the student is debarred from the course with the loss of six quality points.

When a student's course load is reduced, because of unexcused absences, to less than 12 semester hours, he shall be required to withdraw from the University.

## EXCLUSION FOR FAILURE

A student of the Freshman Class to remain in the University must pass at least 6 semester hours of work in his first semester and 18 semester hours in his first year. All other students must pass at least $\rightarrow$ semester hours each semester. A student who is ineligible to re-ente. in September is ineligible to enter the Summer Session.

## STUDENTS TRANSFERRING FROM OTHER INSTITUTIONS

Students whose adranced credits from another institution are acceptec by the University will be given one quality point for each semester hour with which they are credited, provided an average of "C" or better is made during the first two semesters in residence.

## CANDIDATES FOR ACADEMIC DEGREES

A tentative list of all candidates for the Bachelor's degree shall be prepared under the supervision of the Dean of the College as early in the college year as possible, shall be furnished in copy to each department of instruction for information and reference, and also shall be posted in copy on the official bulletin board of the University for the information of the students concerned.

A final list of all candidates for the degree shall be submitted by the Dean to the Faculty at its first regular meeting in May and shall be adopted by the Faculty as the final list. After the adoption of this list no name may be added to it.

A student who completes in a summer session the work required by the University for the Bachelor's degree will be granted the degree at the end of the summer.

# GENERAL REGULATIONS AND INFORMATION 

## ASSEMBLY AND CLASS MEETINGS

## trinity college and the college of engineering

The sophomore, junior and senior classes of Trinity College and the College of Engineering are held on call. The freshman classes of these colleges meet weekly; attendance is compulsory.

## WOMAN'S COLLEGE

A weekly assembly is held for all students in the Woman's College. The freshman class meets once each week, and other classes meet at appointed times.

Attendance upon all of these meetings is compulsory for all students involved.

## CONDUCT OF STUDENTS

The University expects of its students loyal and hearty co-operation in developing and maintaining high standards of conduct as well as of scholarship. The University therefore reserves the right, and matriculation by the student is a concession of this right, to ask the withdrawal of any student whose conduct at any time is not satisfactory to the University, even though no specific charge be made against the student.

## SCHOLASTIC REGULATIONS FOR ATHLETIC AND OTHER ORGANIZATIONS

The following regulations have been adopted by the Faculty:

1. Any student who receives less than a passing grade on more than six hours of his required work of the preceding term shall be ineligible to represent the University in any athletic contest, concert, or other public event.
2. Members of athletic teams or other student groups engaging in public representation of the University are expected to be carrying satisfactorily their current work. A student may be barred from participation in such representation if, in the opinion of the Dean, he is not passing satisfactorily his current work.

Duke University is a member of the Southern (Athletic) Conference and observes the scholastic requirements of that Conference.

## PUBLICATIONS COUNCIL

The student publications of the University are under the control of a council that was established in 1924 and reorganized by the Executive Committee of the University in 1935, and is constituted as follows: three members from the University Staff appointed by the President of the University; two members from the alumni appointed by the President of the University; six men from the junior and senior classes, elected by
the students in Trinity College and the College of Engineering; four women from the junior and senior classes, elected by the students in the Woman's College ; and four editors and four managers of student publications, ex officio members without voting power.

No student publication can be started at the University without the approval of the Council.

## REGULATIONS REGARDING PUBLIC LECTURES AND OTHER PUBLIC OCCASIONS

All public lectures or addresses and other public events that are given under the auspices of the University or of any organization in any way connected with the University are under the supervision of the Faculty Council on Public Lectures. All dates and programs must be approved by this council.
(1) The Council on Public Lectures shall provide each year an official calendar.
(2) All public occasions held on either the East or the West Campus are listed for the Weekly Calendar of Duke University in the office of the Department of Alumni Affairs in the West Campus Union. This calendar appears each Saturday, and such notices must be received by $1: 00$ p.m. on the Thursday preceding.

Social or other events held in the West Campus Union must be listed in the Office of the Director of Alumni Affairs, and permission must be secured for such social use of the public rooms in the building.

## REPORTS

A report of each student's class attendance and his proficiency in academic work is sent to his parents or guardians after the examinations at the end of each semester. Mid-semester reports for freshmen are also mailed to parents.

## ADMINISTRATION OF DISCIPLINE

General oversight of the conduct of students and the administering of discipline are under the supervision of the Vice-President in the Division of Student Life. The duty of immediate supervision, guidance, and control of the students in each college is entrusted to the Dean of that College. However, through the expressed willingness of the students of the University to assume the responsibility of maintaining high standards of morals and honor at all times, the student body has properly become to a great degree self-governing. Two councils, one of men and the other of women, each composed of duly elected representatives of the student body, exercise the authority granted the students to investigate all cases of misconduct, as well as all other cases of violation of proper student standards and traditions. and to make recommendations of penalties based on their findings.

The student councils have been helpful to the administrative authorities of the University. They exert a guiding and stimulating influence for the promotion of high ideals of conduct and of student relationships.

## HEALTH AND PHYSICAL EDUCATION

The program of Health and Physical Education in Duke University has four distinct phases, as follows:

1. Student Health.
2. Physical Instruction.
3. Intramural Sports.
4. Intercollegiate Athletics.

## MEDICAL CARE

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated students of the University, during both the college year and the summer quarter. The cost is included in the general fee paid each semester and in the medical fee charged each student in the summer quarter. The service is under the direction of the University Physician with the co-operation of the Staffs of the Infirmaries (one on each campus) and the University Hospital. It includes hospitalization (limited to thirty days), medical and surgical care. drugs, dressings, X-ray work, and ward, but not special, nursing. The student pays for his board while in the hospital. Refraction of eyes, treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernias, elective surgery, chronic skin conditions, endocrine disturbances, etc.. and accidents or illnesses occurring during vacations or while off the campus, are not included in this service. (A commercial accident-expense reimbursement policy is available if desired.) The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the student.

A woman physician is in residence on the Woman's College campus, and a nurse is in constant attendance at the women's Infirmary. Patients in this Infirmary can be transferred to the Duke Hospital at any hour of the day or night. Nale students receive ambulant care at the student health office in the hospital building during dispensary hours. Men are admitted to the hospital directly whenever necessary. The emergency service and the specialist consulting services of the Hospital and Medical School are always available.

The medical certificate, required by the Committee on Admissions and sent to all prospective students, gives advice as to certain types of medical and surgical care to be done by the home physician or surgeon prior to the departure of the student for college. The advice concerns such things as the giving of typhoid or smallpox vaccine, removal of diseased tonsils, correction of errors of refraction, repair of a hernia, or removal of a chronic appendix. Important time is frequently lost in correcting these conditions after entrance into college, and the cost of this work must be borne by the student.

When the student comes to the Lniversity, he is given a careful physical examination. Any physical defects are recorded along with the record of the fuestionnaire from the family physician. All students are requested to be successfully vaccinated against smallpox before admission to the University. It is urgently advised that they take typhoid vaccine if they have not done so within three years.

## PHYSICAL EDUCATION AND INTERCOLLEGIATE SPORTS trinity college and the college of engineering

The men's colleges require all students to engage in some type of plysical activity for two years or four full semesters. This work consists of participation in natural, practical, physical activity for at least three one-hour periods each week. A credit of four semester hours is required in physical education for graduation. The purpose of this work is to improve body control and strength through big muscle activities, to stimulate the development of mental and physical alertness, to establish habits of regular exercise, and to give training and experience in various kinds of recreational sports that will be indulged in after the student graduates from the University.

Intramural sports are fostered and promoted in all lines of athletic activity. Meets, tournaments, and leagues are seasonally organized in the different sports. All students in the University are eligible to enjoy the intramural privileges, provided they comply with the intramural rulings. Participation in these activities is entirely voluntary, but they are very popular because they provide an opportunity for every man to enter into competition and recreation in those sports which he enjoys most.

The intercollegiate athletic program is controlled entirely by the University and consists of the organization and training of representative freshman and varsity teams in the following sports: football, basketball, baseball, track, cross country, swimming, lacrosse, wrestling, tennis, and golf.

## WOMAN'S COLLEGE

The Physical Education Department aims to give the students of the Woman's College an appreciation of the value of activity for general physical well-being, skill in one or more activities which can be enjoyed as recreation during and after college, a well-developed and wellcoordinated body, and a knowledge of good posture and efficient handling of the body in everyday activities.

To this end, students are allowed to choose from a large number of activities including individual, dual, and team sports, swimming, and several types of dancing. In order to insure a variety of skills, each student, during her three years of required physical education, must elect one semester's work in each of the following types of activity: individual or dual sports, and dance. All students who are unable to pass the swimming test must take one semester of swimming before graduation. In addition to the two hours per week of activity classes, all freshmen are required to take a course in orientation in physical education and body mechanics, meeting once a week during the first semester.

The Dance Group, the Swimming Club, and the Woman's Athletic Association give opportunities for all students to take part in the types of intramural activities most interesting to them. The swimming pool, temnis courts, and other athletic equipment are available to all students for use at specified times.

## PHYSICAL EDUCATION AND RECREATION FEES

In order to meet certain hygienic aspects of physical education and intramural athletics, the University has made available for all students, in addition to facilities for physical activity and recreation, the following equipment and services :

1. (a) Men. A regulation uniform: shirt, trunks, supporter, socks, sweat clothes, and towel.
(b) Women. Gym suit, dance costume, bathing suit, warm-up suit.
2. Provision for locker and handling of uniform.
3. The laundering of uniform and towel as needed.

The privileges and services listed above are available to all students who pay full fees, so long as they comply with the rules and regulations established for the care and landling of same.

## THE ATHLETIC COUNCIL

The Executive Committee of the Board of Trustees at a meeting held on January 8, 1949, received and considered a report from the Board's standing Committee on Physical Education and Athletics recommending a reconstitution of the Athletic Council. The report recommended that the action of the Board of Trustees at its regular annual meeting in Jume, 1907, by which it set up an Athletic Council, be rescinded and that a new Athletic Council be created. The Executive Committee adopted the report of the Board's standing Committee on Physical Education and Athletics as follows:

The Athletic Comincil shall be composed of seven members on the following basis:

Three from the Faculty to be appointed at once by the Executive Committee of the Board of Trustees and thereafter annually at the time of the annual Commencement by the President as follows: one member from the General Administration; one member from the undergraduate colleges division of the educational administration ; and one member from the instructional staff of the undergraduate colleges. From this group the President shall appoint the Faculty Chairman, who shall be Chairman of the Athletic Council and its Executive Committee.

Four from the Alumni, one of whom shall be a University Trustee, an alumnus, and a member of the Board's standing Committee on Plysical Education and Athletics, who is to be appointed not less frequently than every three years by the Chairman of the Board of Trustees. The remaining three of the Alumni members of the Council shall be elected annually by the general Alumni Association for terms of three years and may not succeed themselves. (For the purpose of giving effect to this limitation as of the 1949 Commencement, one member shall be elected for a term of one year, one for two years and one for three years. In order to immediately reconstitute the

Council, the Executive Committee of the Board of Trustecs shall appoint at once the fonr Alumni members to serve until their successors are elected or appointed at the 1959 Commencement.)

The Director of Alumni Affairs shall c.r officio be Secretary of the Athletic Council and of its Executive Committee.

The three Faculty members of the Athletic Council constitute a committee which alone has the responsibility of enforcing the scholarship and athletic requirements of the University for participation in intercollegiate sports. The athletic eligibility rules are those of the Southern Conference.

The Executive Committee of the Athletic Council is composed of the Faculty Chairman of the Council, one other Faculty member of the Council and one Alumni member of the Council. The Executive Committee of the Council recommends to the President of the University persons to serve as Director of Athletics and as coaches in the various sports. The election of such persons however rests solely with the Board of Trustees of the University or with its Executive Committee on recommendation of the President of the University. The Executive Committee of the Council recommends to the Athletic Council athletic schedules and the award of insignia of merit earned by members of the athletic teams. However, decisions with respect to same rest solely with the Athletic Council subject to approval of the President.

Each of the four undergraduate classes shall select annually, for terms of one year, a member of each respective class to serve in an advisory capacity to the Athletic Council upon call of the Faculty Chairman on the matter of awarding insignia of merit.

All funds arising from athletics are handled entirely by the Treasurer of the University. An audit of the receipts and disbursements of these funds is to be made annually by the official auditors of the University and a report thereof made annually to the Executive Committee of the Board of Trustees.

## RELIGIOUS SERVICES

The Duke University Church (Interdenominational) conducts services throughout the year. Preaching services are held on Sunday at 11:00 A.m. in the University Chapel. A Vesper service, conducted each Thursday at 7:00 P.m., is sponsored by the Student Religious Council. Organ recitals and special musical programs are given from time to time on Sunday afternoons in the Chapel. During the summer, carillon recitals are given twice a week.

## APPOINTMENTS OFFICE

The University maintains an Appointments Office, with services extended to all students and alumni without charge. This office has two divisions, commercial (gencral placement) and educational (teacher placement). Students and alumni are encouraged to register with the office in order to make available in one center information respecting their various qualifications for the employment they seek.

## THE BUREAU OF TESTING AND GUIDANCE

The University maintains a Bureau of Testing and Guidance in which is centralized the counseling and guidance program for students. It is responsible for the administration of various testing programs throughout the year. Included in the responsibilities of the Bureau are admissions tests, placement tests, rocational series, other specialized programs including the Graduate Record Examination, the Navy College Aptitude Test, the Medical College Admissions Test, and specific testing programs requested by the schools and colleges within the University. The Bureau likewise maintains facilities for research projects in the field of guidance and testing and offers such services to schools and individuals outside the community as its facilities permit. Requests for further information should be addressed to The Director, Bureau of Testing and Guidance, Duke Station, Durham, North Carolina.

## FEES AND EXPENSES

## UNDERGRADUATE COLLEGES OF ARTS AND SCIENCES AND COLLEGE OF ENGINEERING

All fees listed below, with the exception of that for registration, are due and payable at the beginning of each semester. The General Fee, adopted by the Board of Trustees in March, 1947, became effective for the academic year 1947-48. It takes the place of various separate fees heretofore collected, and is a consolidation, principally for simplification, of these separate fees. Among the fees included in this consolidation are the laboratory fees, athletic fee, publication fee, medical fee, matriculation fee, library fee, and commencement fee. Special fees for instruction in Applied Music are listed on page 78.
Registration, payable only once, on notice of acceptance. This is not
refundable
$\$ 20.00$
Tuition ............................................................................................ . . . . . . 175.00
General Fee ............................................................................... 75.00
An adranced deposit of $\$ 25.00$ is required of all students at the time of spring registration in order to reserve a place in the classes for the fall semester. This is applied toward payment of the general fee upon the opening of the fall semester. The deposit will be refunded to students whom the University does not permit to return. Students who fail to return of their own volition are not entitled to a refund.

An adrance deposit of $\$ 25.00$ is also required of old students who have been out of school for one or more semesters and have been accepted for readmission. It is applied toward payment of the general fee for the semester of readmission. The advance deposit is paid at the time of acceptance and is not refundable.

## ESTIMATED EXPENSES FOR AN ACADEMIC YEAR

The necessary expenses of a student are moderate; the University dormitories provide thoroughly comfortable and wholesome living conditions at a minimum of cost. Incidental expenses depend naturally upon the tastes and habits of the individual, but the actual necessary expenses are as follows:

|  | Low | Moderate | Liberal |
| :---: | :---: | :---: | :---: |
| Tuition | . $\$ 350.00$ | \$ 350.00 | \$ 350.00 |
| General Fee | 150.00 | 150.00 | 150.00 |
| Room-rent | 100.00 | 125.00 | 175.00 |
| Board | 325.00 | 375.00 | 450.00 |
| Laundry | 25.00 | 30.00 | 35.00 |
| Books . | 20.00 | 30.00 | 40.00 |
|  | \$970.00 | \$1,060.00 | \$1,200.00 |

The actual fees and expenses necessary for one year in residence as a student in Trinity College, the Woman's College or the College of Engineering, then, can be met within $\$ 970.00$.

## LIVING ACCOMMODATIONS FOR MEN

Single room, per semester-Craven, Crowell, and Kilgo Quadrangles, West Campus
Double room, per student, per semester-Craven, Crowell, and Kilgo
Quadrangles, West Campus ............................................ 62.50
There are three groups of resident houses, designated as Craven, Crowell, and Kilgo Quadrangles, on the West Campus. The rooms are single, double, or arranged in suites of two rooms for four students. There are thirty-one houses within the three groups designated by the letters of the alphabet.

One dormitory is assigned to freshmen.
Rooms may be reserved only for applicants who have been officially accepted by the University. A fee of $\$ 25.00$ is required for reservation. This fee is deducted from the room rental charge at the time of registration for the semester; it is not refunded unless application for the refund is made sixty days prior to the registration date of the semester.

A resident student in order to retain his room for the succeeding semester must make application, accompanied by a reservation fee of $\$ 25.00$. All rooms which have not been reserved on or before an announced date will be considered vacant for the succeeding semester and will be reserved in the order in which applications are made.

Rooms are rented for no shorter period than one semester, or, in the case of a medical student, one quarter, unless by special arrangement with the Housing Bureau. A period of occupancy other than a semester or quarter and without special arrangement will be charged at a minimum rate of $\$ 1.00$ each day.

The exchange of rooms may be arranged at the Housing Bureau within fifteen (15) days after the official opening of the semester or quarter of the school term. A charge of two dollars ( $\$ 2.00$ ) will be made for the exchange of rooms after the periods allowed for such exchange. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume the responsibility for the personnel selected as roommates. Each student is urged to select the roommate when the room is reserved.

## DORMITORY REGULATIONS FOR MEN

Duke University is particularly eager that its students shall have the best dormitory life to be found in any institution. It has endeavored to provide buildings and equipment commensurate with this ideal. The institution asks and believes that in return each student will respond by arranging his personal belongings in an orderly manner and by caring for the buildings and furniture as he would do in the home of a friend. The following regulations are offered as a guide and a reminder that care is desired.

1. The student will be held responsible for any damage to the room or furnishings during the rental period, and will pay for all damages caused by
his neglect, misuse or abuse of any part of the University property. Inspections will be made throughout the college year to observe the condition of the rooms and to advise students concerning the care of rooms, if necessary.
2. Maids will prepare the rooms daily except Sunday, the service beginning promptly at $8: 00$ A. 11 . and ceasing at $1: 00$ P. 11 ., thereby giving the student complete use of his room during the afternoon.
3. University furniture or furnishings must not be removed from the room in which they have been placed by the University.
4. Electric wiring, door locks, window screens, steam or water lines should not be changed or added, since the University supervises and makes such changes as are necessary and advisable.
5. Pictures, pennants and clippings should be hung from the picture moulding and not tacked or pasted on walls or woodwork.
6. Each student is expected to supply necessary sheets, blankets, pillows, rugs, and curtains. Furniture, beds and mattresses ( $39^{\prime \prime} \times 74^{\prime \prime}$ ), tables, chairs, dressers, mirrors, and window shades are furnished by the University.
7. All trunks and heavy luggage will be stored in the trunk rooms. Janitors will remove the trunks from the hallways to the storage rooms when they are unpacked.
8. The exchange of rooms or keys should be arranged at the office. Any exchanges made otherwise will subject the participant to charges for both rooms.
9. The use or possession of intoxicating liquors, wines or beer, and gambling in any manner in any of the buildings or on the grounds of Duke University are forbidden.
10. Animals shall not be kept in the dormitories.
11. Women are permitted in the dormitories only when accompanied by the University Hostess.
12. The use of dormitory rooms as a sales office or storeroom, or the solicitation for sales or gifts within the buildings or on the grounds is prohibited except by appointees of the University.

## LIVING ACCOMMODATIONS FOR WOMEN

Undergraduate women are required to live in the residence houses of the W'oman's College unless they are living with parents or close relatives in the city. Under special circumstances the Dean may make an exception in the case of a mature student.

Residence Houses. There are eight residence houses: Alspaugh, Aycock, Bassett, Brown, Giles, Jarris, Pegram and Southgate. All rooms in Jarvis and Southgate are double; in Aycock there is a limited number of singles; and in the other houses there are a few singles and several suites consisting of a double and a single or two singles.

A Counselor, who is a member of the Dean's Staff, lives in each dormitory to advise the students and to assist the student House Council in the administration of the house.

Room Furnishings. All rooms contain only the principal articles of furniture. A student is required to supply her own linens, blankets, bedspreads, curtains, and study-lamps. She may, if she wishes, provide additional articles such as scatter-rugs and small tables or bookcases, but she is not permitted to have large rugs or heavy overstuffed furniture.

Room Rent. Each occupant of a double room is charged $\$ 62.50$ a semester; the occupant of a single room, $\$ 87.50$ a semester.

Rooms are rented for no shorter period than one semester, unless by special arrangement with the Dean of Residence. A period of occupancy other than a
semester or quarter and without special arrangement will be charged at a minimum rate of $\$ 1.00$ each day.

Room Rescriations. Room reservations are made with the Dean of Residence of the Woman's College. To obtain a reservation, a student must pay a fee of $\$ 25.00$, which is later deducted from the room rent. A new student should pay this fee as soon as she is accepted by the Committee on Admissions. If she does not pay it within ten days, her admission is cancelled. As an applicant for admission may not reserve a room until she is officially accepted. she is requested not to send the reservation fee before she receives notice of her admission.

A student cancelling her room reservation sixty days or more prior to the official opening of the semester may have her fee refunded. After that date no refunds are made.

In the spring, resident students reserve rooms for the next fall semester in accordance with the plan announced by the Dean of Residence. New students are, as far as possible, given their choice of the remaining rooms.

Roommates. A new student who wishes a double room but has made no arrangement for a roommate will be assigned a roommate by the College. After a student has been a resident for one semester, she is responsible for obtaining and keeping a roommate. If a student occupying a double room does not obtain a roommate in the time required by the Dean of Residence-approximately two weeks after the beginning of the semester-she may be required to pay the rental consideration for the entire room.

Room Occupancy. After a student has engaged a room, she is not permitted to move to another without the consent of the Dean of Residence. A student leaving one room and occupying another without permission may be charged for both rooms for the entire semester. No student is allowed to rent or sublet the room she has engaged to another occupant.

## DINING SERVICE

W'est Campus.-Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day, depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus, and the Oak Room where full meals and a la carte items are served.

Woman's Collcge, East Campus.-The dining halls of the Woman's College are situated in the Union and in Southgate. No resident woman is permitted to board elsewhere than at these halls. The charge for board is $\$ 175.00$ per semester, payable at the time of registration.

It is hoped that present rates may be maintained. Charges, however, are necessarily dependent upon costs of labor, foods and materials, and some adjustment may be necessary.

Because of the large number of those served in the dining halls, it is not possible to arrange special diets for individual students. Special diet for the sick is served in the Infirmary.

## REGULATIONS REGARDING PAYMENTS

The Executive Committee of Duke University has enacted the following regulations which govern the payment of all fees due the University:

1. The President and the Treasurer of the University have no authority to suspend or in any way alter these regulations.
2. Any student who has failed to pay his bills on the dates advertised
in the catalogue is denied the right to attend classes until his account is settled in full: subsequent withdrawal does not entitle a student to a refund.
3. No student is considered by the Faculty as an applicant for graduation until he has settled with the Treasurer for all his indebtedness to the University.
4. No student who has not settled all his bills with the Treasurer of the University is allowed to stand the final examinations of the academic year.

When a student wishes his bills sent to his parents or guardian. the student or his parent or guardian must so notify the Treasurer of the University in writing in due time; but this in no way releases the student from liability to established penalties, if his bills are not paid on the dates advertised.

## TRANSCRIPTS

Students desiring transcripts are entitled to one transcript without charge. A fee of $\$ 1.00$ is charged for each additional transcript. Records are not released when any outstanding amount is reported by the Treasurer's Office.

## SCHOLARSHIPS, LOANS, AND EMPLOYMENT AID

Duke University annually awards available scholarships, administers loan funds, and supervises student employment through a committee of the Faculty for deserving undergraduates of Trinity College, the Woman's College, and the College of Engineering.

## SCHOLARSHIPS

Scholarships intended to aid needy and deserving students have been established from time to time by persons deeply interested both in Duke University and in the members of its student body. All scholarship endowments are held in trust and are kept separate and distinct from other holdings of the Unisersity. All income is faithfully applied in accordance with the terms of the gift or bequest.

In addition, a limited number of scholarships, notably the honorary awards in recognition of scholastic merit and strength of character, are financed through current funds of the University.

Scholarships are awarded annually by a committee of the Faculty appointed by the President of the University. In some cases donors have specified certain limitations and conditions. These are faithfully followed, but in all cases final award is made by the Faculty committee.

Any prospective student may apply for a scholarship. Applications, howerer, may be made formally by a prospective student only after his application for admission has been made, all necessary credentials have been presented, and notification of acceptance has been given. All applications are to be by letter and must include on a form furnished by the University a complete statement of the applicant's needs. The number of scholarships available is small in comparison with the number of applicants for these awards. As a result, the committee, in making its decisions, must in so far as possible limit scholarship aid to cases where the need is imperative.

All applications for scholarship aid should be made to the Scholarship Committee, Secretary's Office, Duke University.

## THE ANGIER DUKE REGIONAL PRIZES

Value. Nine prizes of $\$ 750.00$ each are awarded annually to six men and three women. Prizes are awarded for one year and are renewable from year to year for a maximum duration of four years, on the condition that the holder maintain a scholastic average in the upper quartile of his class and further that he show evidence of developing the qualities of leadership which served as the basis for the original selection. When all awards are renewed, there are thirty-six holders of prizes in residence. The total value to the recipient who qualifies for the maximum period is $\$ 3,000.00$.

Eligibility. Any resident of the state of North Carolina is eligible
to apply regardless of where he or she prepares for college. A candidate may be a graduate of a secondary school, public or private, located within or beyond the borders of the state. Candidates must be eligible for admission to the freshman class of Trinity College, the College of Engineering or the Woman's College in the ensuing academic year. A candidate must have attained scholastic standing in the highest 25 per cent of his or her class as of the closing date of his or her most recently completed semester.

Objectizc. The prizes are intended to encourage as students young men and women who give promise of becoming leaders in their chosen fields of endeavor. As potential leaders, they should possess character, personality, intellectual integrity, vitality, and imagination. As students they should possess scholastic ability of a creative sort and minds that can digest and use the knowledge they acquire. The prizes are designed to stimulate young men and women who possess these traits to become citizens with a genuine interest in society and ability to influence and direct the course of affairs.

Procedure. Applications for one of the prizes awarded either to men or women should be addressed to Mr. John M. Dozier, Office of the Secretary, Duke University, Durham, N. C.

## LOAN FUNDS

A number of loan funds have been established for the benefit of students of Duke University. The most important and largest of these is the Angier B. Duke Memorial Student Loan Fund, which is administered through an advisory committee of officers of the University. The amount arailable to be loaned annually depends upon the income from investments and on the amount repaid on loans previously made to students.

The same committee of officers administers the other endowed loan funds of the University.

Although a considerable sum accrues annually for loans to students, it is not sufficient to provide for all calls for assistance. The committee in approving loans selects those students who, from the standpoint of character, scholastic attainment, personality, and degree of financial need, are most deserving of consideration.

The following regulations govern the making of all student loans:

1. No loans shall be made to a student who violates any of the regulations of the University or whose classwork is not satisfactory to the Faculty.
2. As a general policy a student is not potentially eligible for loan assistance until he has been in residence at least one semester and until those responsible for the administration of loan funds have had an opportunity to acquaint themselves with the worthiness and the need involved in any particular case.
3. Loans will be made only to students who are taking approred
courses of study that lead to a degree, and all loans must be arranged for not later than one week after the beginning of a semester.
4. Every applicant for a loan must present with the application such security as the President of the University may approve, and no money shall be advanced before a note with approved security is in the hands of the Treasurer of the University.
5. No loan will be made to defray any other expenses than those incurred during the academic year for tuition, for matriculation, or for room-rent.
6. Interest at rate of six per cent annually shall be charged for all loans of money, and the interest must be paid annually.
7. Applications for loans should be made to the Loan Committee, Secretary's Office, Duke University Station. A formal application for loan assistance may be made only on blanks furnished in the Secretary's Office at the time of registration. The granting or withholding of a loan is a matter entirely within the discretion of the Loan Committee. A student is expected to use all other possible means of securing financial assistance before applying for aid from the Loan Fund.

## EMPLOYMENT

In order to serve the students attending Duke University who need part-time employment, a student employment office is maintained. There are many work opportunities both on the campus and in the city of Durham. Although there is no definite number of such places, a considerable number of students each year help defray their college expenses by working.

A listing of all known available jobs is kept in this office, and the majority of students who wish to work are placed in suitable jobs. The student employment office also keeps a permanent record of the work activities of the self help students and is able to write recommendations in the senior year of these students for the Appointments Office.

Prospective students may make application for part-time employment only after they have completed an application for admission and notification of acceptance has been given. The job application should be by letter prior to the reporting date for entrance, and a complete detailed job application form must be completed on the date of arrival at Duke University.

Those students in Trinity College and the College of Engineering in need of such employment may apply to Mr. J. M. Dozier, 209 Administration Building. West Campus. Students in the Woman's College should apply to the Assistant Dean of Residence. 108 East Duke Building, East Campus.

## HONORS AND PRIZES

To be eligible for Honors a student must earn during the year a credit of not less than thirty semester hours. Students in the freshman, sophomore, and junior classes who earn an arerage of at least two and onehalf quality points per semester hour are given Honors. All semester hours on which a student receives a grade are counted in the determination of Honors.

The degree of Bachelor of Arts or of Bachelor of Science with distinction is conferred in accordance with the following rules:

Students who have completed a minimum of ninety semester hours in Duke University are eligible for general Honors at graduation. Those who earn an average of at least two and one-halt quality points per semester hour are recommended for a degree magna cum laude. Those who earn an average of at least two and three-fourths quality points per semester hour are recommended for a degree summa cum lande. All semester hours taken in Duke University on which a student receives a grade are counted in the determination of Honors.

## MEDALS AND PRIZES

The IViley Gray Medal was established by the late Robert T. Grar. Esp.. of Raleigh. North Carolina, to be awarded annually in memory of his brother. It is given for the graduating oration that shall be, in the opinion of a committee, the best, with respect to both declaration and composition.

The Debate Council authorizes the awarding of medals to members of the graduating class who have represented the University in at least two intercollegiate debates. The medals are given by the local chapter of the Tau Kappa Alpha Fraternity.

The Robert E. Lec Prize is the gift of The Reverend A. IV. Plyler, of the Class of 1892, and Mrs. Plyler. The sum of $\$ 50$ is awarded annually at Commencement, preferably to that member of the Senior Class who in character and conduct, in scholarship and athletic achievement, in manly virtues and capacity for leadership, has most nearly realized the standard of the ideal student. The Dean of the College, the Graduate Manager of Athletics, and the President of the Student Council constitute a committee to draft and adopt regulations governing the award.

Alpha Kappa Psi Medallion. Beta Eta Chapter of Alpha Kappa Psi, a protessional fraternity in commerce, awards amnually the Alpha Kappa Psi Scholarship Key to the male senior student pursuing a degree in the Department of Economics and Business Administration, who has attained the highest scholastic average for three years of collegiate work in this University.

The Ifillis Suith Prize. Mr. Willis Smith, a member of the Raleigh Bar and Chairman of the Board of Trustees of Duke University, awards each year to that member of the graduating class of the Law School who has maintained the highest scholastic arerage during the entire three
years of Law School work, a prize consisting of a set of books selected personally by Mr. Smith each year for that purpose.

Julia Dalc Prize in Mathematics. This is a prize of books given anmually to the undergraduate who shows the greatest proficiency in the study of the calculus.

The Milmow Prize, consisting of one year's subscription to the Electrical W'orld, is awarded each year to that student from North or South Carolina graduating in the Department of Electrical Engineering, who, in the opinion of the Faculty of that department and as shown by his grades, has made the most progress in electrical engineering during his last year in college.

The Tau Bcta Pi Prizc. The North Carolina Gamma chapter of Tau Beta Pi, national honorary engineering fraternity, awards each year a suitable prize, such as an engineering handbook, to a sophomore student in engineering for outstanding scholastic achievement during the freshman year.

The Pegram Chemistry Club Prizc will be awarded in the spring of each year for scholarship in chemistry, physics, and mathematics. The prize is to consist of one-year junior membership in the American Chemical Society, and a one-year subscription to either the Journal of the Amcrican Chemical Socicty, or to Industrial and Engincering Chomistry. To qualify for this prize the student must (1) be enrolled as an undergraduate of Duke University and (2) be taking or have taken a fourthyear chemistry course. The winner of this prize is to be selected by a committee consisting of at least one Faculty member and at least two members of the Pegram Chemistry Club; the selection is to be based on the ruality-point average for all courses taken in chemistry, physics, and mathematics. In case of a tie equal awards will be given.

The Sigma Ni Prizc. The Society of the Sigma Xi, honorary scientific society, is devoted to the encouragement of scientific research, and seeks to stimulate those who show promise of accomplishment in scientific research. As an encouragement to younger men and women the Duke Chapter of Sigma Xi has established the following prizes to be awarded annually to students resident at Duke University: $\$ 20.00$ for an undergraduate project or paper, $\$ 20.00$ for a Master's thesis or its equivalent, and $\$ 40.00$ for a $\mathrm{Ph} . \mathrm{D}$. dissertation or its equivalent. Nominations, recommendations, copies of theses, reports or other material must be in the hands of the Secretary of the Chapter on or before May 5.

The Erasmus Club Prize in the Humanitics. The Erasmus Club, founded in 1925, a group of Duke faculty members interested in research in language, literature, and the arts, seeks to stimulate interest and study in these fields. To encourage Duke students in this field, the Erasmus Club has established an annual prize, amounting to $\$ 25.00$, for the best original essay by an undergraduate which embodies the results of research, criticism, or evaluation in some subject in the humanities. Prospective competitors should consult some member of the Faculty, preferably their major professor. Essays must be typewritten and must be submitted to the president of the Club before the first of April. The

Club reserves the right to withhold the prize in case there are no essays of acceptable quality.

The Anne Flcxncr Mcmorial Award in Crcative Writing has been established by the friends and family of Anne Flexner, who graduated from Duke in 1945. It consists of fifty dollars in cash and a book bearing the Anne Flexner Memorial Award bookplate. It is given annually for the best pieces of creative writing submitted by a Duke undergraduate. It is limited to short stories ( 5,000 word limit), one-act plays ( 5,000 word limit), poems ( 100 line limit), and informal essays ( 3,000 word limit). Only one manuscript may be submitted by a candidate, and manuscripts must be delivered to the English Office, Room 2G5, West Dike, before April 15.

The William Senhauser Prize is given by his mother in memory of her son, a member of the Class of 1942, who lost his life in the Pacific Theatre of War on August 4, 1944. The award is made annually to the sophomore or junior in Trinity College or the College of Engineering who has made the greatest contribution through participation and leadership in intramural sports. The winner of this prize is chosen by a committee selected by the President of the University.

The Fricnds of Duke Unizersity Library offer three prizes of $\$ 25.00$, $\$ 15.00$, and $\$ 10.00$ in an annual contest open to all undergraduate students for the best book collections acquired during their college years. The contest is supervised by the Undergraduate Committee of the Friends of the Library, which announces each fall the terms of the award. Inquiries may be directed to the Curator of Rare Books. Collections entered in the contest are exhibited each spring in the General Library, and the prizes are awarded on the basis of the student's collection and a personal interview to determine the over-all planning and objectives of his collecting activity, and his familiarity with his own books and the general field of his collecting interest.

## STUDENT ORGANIZATIONS AND ACTIVITIES

The Mcu's Association of Duke University comprises all men students in Trinity College and the College of Engineering. Through its officers and a council it initiates policies and oversees matters within the control of the student body. The council is composed of nine members: three executive officers, two representatives from the Senior Class, two from the Junior Class, one from the Sophomore Class, and one from the College of Engineering.

The IVomen's Student Gozernment Association is similar in character to the men's association. Its council is composed of the officers of the Association, house presidents and president of the Town Girls' Club, class representatives, and chairman of the Freshman Advisory Council, cx officio.

The Ioung Mcn's Christian Association and the Young I'omen's Christian Association are branches of the national student Christian Associations. Each body aims to enrich not only the religious life of its members as individuals but also to promote religious group activity. These organizations carry on extensive activity in the fields of social service, faculty-student relations, forums, and other related projects. Membership in the Student Religious Council relates these organizations to the total religious activities program of the Duke University Church, Interdenominational.

Other organizations and activities include the following:
Bench and Bar Society (Pre-Legal Undergraduates) ; Class of 1950; Class of 1951 ; Class of 1952; Class of 1953; Classical Club (Men) ; Club Panamericano: Commodore Club; Debate Council (Men) ; Duke Masonic Club; Duke Players; Duke University Church (Interdenominational) ; Duke University Handbook and Directory; Duke University Steering Committee ; Engineers' Club; G. O. Politan Club; Graduate Club; Hoof 'n' Horn; Interfraternity Council ; Intramural Athletic Department; Men's Freshman Advisory Council ; Pegram Chemistry Club; Pre-Medical Society; Quadrangle Pictures; Shoe and Slipper Club; Student Religious Council; Town Boys' Club; Town Girls' Club; Woman's College Student Forum; Women's Athletic Association; Women's Freshman Advisory Council; Young Democrats Club; World Student Service Fund.

## HONORARY ORDERS AND FRATERNITIES (NATIONAL)

Alpha Kappa Psi (Economics); Chi Delta Phi (Literary) ; Delta Phi Alpha (German) ; Kappa Chi (Pre-Ministerial) ; Kappa Delta Pi (Educational) ; Omicron Delta Kappa (Leadership-Men); Phi Beta Kappa (Scholarship) : Phi Eta Sigma (Freshman Scholarship-Men) ; Pi Mu Epsilon (Mathematics) : Sigma Delta Pi (Spanish): Sigma Pi Sigma (Physics); Tau Kappa Alpha (Forensic); Tau Psi Omega (French) ; Theta Alpha Phi (Dramatic).

HONORARI ORDERS AND FRATERNITIES (LOCAL)
Beta Omega Sigma (Sophomore-Men) : Delta Phi Rho Alpha (Ath-letic-Women) ; lyy (Scholarship-Freshman Women); Mu Sigma (Psychology) ; Phi Kappa Delta (Leadership-Women); Red Friars (Leadership-Senior Men) ; Sandals (Sophomore-Women): Varsity "D" Club (Athletic-Men) ; White Duchy" (Leadership-Senior Women).

## ENGINEERING STUDENT PROFESSIONAL SOCIETIES

Student branches of the following national professional engineering societies are active at the College of Engineering: American Institute of Electrical Engineers: the American Society of Civil Engineers; the American Society of Mechanical Engineers; and the Institute of the Aeronautical Sciences.

## ENGINEERING STUDENT HONORARY SOCIETIES

Tau Beta Pi (National Honorary Engineering Fraternity): Pi Tau Sigma ( Mechanical Engineering National Honorary Society) ; Order of St. Patrick (Leadership).

## MUSICAL ORGANIZATIONS

Chamber Orchestra; Concert Band; Madrigal Singers: Marching Band; Men's Glee Club: Music Study Club; Symphony Orchestra; University Chapel Choir; Women's Glee Club.

## N.R.O.T.C. ORGANIZATION

Commodore's Club, N.R.O.T.C. Social Organization.

## SOCIAL FRATERNITIES (NATIONAL) <br> (The Men's Interfraternity Council)

Alpha Tau Omega; Beta Theta Pi: Chi Phi; Delta Sigma Plii: Delta Tau Delta: Kappa Alpha: Kappa Sigma; Lambda Chi Alpha: Phi Delta Theta; Phi Kappa Psi; Phi Kappa Sigma: Pi Kappa Alpha: Pi Kappa Phi: Sigma Alpha Epsilon: Sigma Chi: Sigma Nu; Sigma Phi Epsilon: Theta Chi; Zeta Beta Tau.

## SOCIAL SORORITIES (NATIONAL)

(The Women's Pan-Hellenic Council)
Alpha Chi Omega: Alpha Delta Pi; Alpha Plii: Alpha Epsilon Phi; Delta Delta Delta: Delta Gamma: Kappa Alpha Theta: Kappa Delta; Kappa Kappa Gamma; Phi Mu; Pi Beta Phi: Sigma Kappa; Zeta Tau Alpha.

## STUDENT PUBLICATIONS

## (Publications Board)

Archize (Monthly); Chanticleer (Annual): Chronicle (Weekly); Duke ' $n$ ' Duchess (Monthly Humor) ; DukEngineer (Bimonthly).

## STUDENT ACTIVITIES OFFICE

The Student Activities Offices were established for the purpose of assisting and co-ordinating the financial activities of the various student
organizations in Trinity College, the College of Engineering, and the Woman's College.

The offices offer to student organizations a banking service through the office of the University Treasurer. They also provide auditing services for organizations requiring it. Permanent records of all financial activities of organizations are kept under the supervision of the offices. The Student Activities Offices, co-operating with the University Purchasing Department, also serve in the capacity of purchasing agent for affiliated student organizations. There is no charge for this service.

In addition to these specific services, the purpose of the offices is to promote well organized and effective extra-curricular interest.

Student Activities Offices for Trinity College and the College of Engineering are located on the West Campus, and for the Woman's College on the East Campus.

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## BULLETIN <br> OF <br> DUKE UNIVERSITY

## The School of Nursing

# The Division of Nursing Education 

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Enginefring, apply to The Secretary, Duke Universitÿ, Durham, N. C.

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For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham. N. C.

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## BULLETIN

## OF

# Duke University 

## THE SCHOOL OF NURSING



1950-1951

DURHAM, NORTH CAROLINA

## CALENDARS OF THE COLLEGES

## Summer Session

1950
June 13 Tuesday-Registration for first term of Summer Session.
June 14 Wednesday-Instruction begins for Summer Session, first term.
July 22 Saturday-Examinations begin for first term of Summer Session.
July 24 Monday-Instruction begins for Summer Session, 3 weeks term.
Iuly 24-28 Monday-Nursing Education Institute.

## Academic Year 1950-51

Sept. 14 Thursday, 9:00 A.m.-Baker House open to Freshmen.
Sept. 15 Friday-Registration, orientation, School of Nursing.
Sept. 18 Monday-Registration and matriculation of new students with advanced standing, Woman's College.
Sept. 20 Wednesday, $11: 00$ A.m.-Formal opening of the Colleges (graduate nurses).
Sept. 21 Thursday-Instruction begins for graduate nurses.
Oct. 9 Monday-Assembly of all students in School of Nursing.
Nov. 23 Thursday-Thanksgiving Day: a holiday.
Dec. 11 Monday-Founders Day.
Dec. 20 Wednesday, 5:00 P.M.-Christmas recess begins (campus classes and first-year students).

1951
Jan. 4 Thursday, 8:00 A.M.-Instruction is resumed.
Jan. 8 Monday, $7:+5$ f.M.-All student assembly.
Jan. 17 Wednesday-Mid-year examinations begin for graduate nurses.
Jan. 27 Saturday-Mid-year examinations end.
Jan. 29 Monday-Registration and matriculation of new graduate nurse students.
Jan. 30 Tuesday-Last day for matriculation for second semester.
Tan. 31 Wednesday-Second semester begins.
March 24 Saturday, $12: 30$ p.m.- Spring racation begins (campus classes and first-year students).
April 2 Monday, 8:00 A.M.-Instruction is resumed.
May 21 Monday-Final examinations for second semester begin.
May 31 Thursday-Final examinations end.
Tune 2 Saturday-Commencement begins; Senior Class Day; meeting of the Board of Trustees.
Tune 3 Sunday-Commencement Sermon.
June 4 Monday-Commencement Address; Graduating Exercises.

## OFFICERS OF ADMINISTRATION

## GENERAL ADMINISTRATION

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204 Dillard Street

## SCHOOL OF NURSING

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Baker House

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Personnel Policies Committee: H. Brock, R. Emlet, B. S. Hedrick, D. McKimnon.

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FLORENCE K．NTILSON．B．．．．．II．A．．R．N． Projesser of l＇ursing Education

Uaiversitr of Michigs＝，B．A．．1913；Vassar Training Camp ©or Nurses，1918；Diploma， Ci：y Hespital Schoe？ô Nursme．1920：Western Reserve University，M1．A．，1930； Assoctare Prciesior of Nursing Education，Syracuse L＂niversity，1943～13；Director of Schoo！of Nursing．Srracuse Memorial Hospital．1937－19\％5；Instructor and Supervisor ō Medical Jursing，ごew York Hospital， $193+3 \%$ ；Instructor and Supervisor，Western Reserre Lniversity Eibool of Nurang．1923－29；Resea－ch Assistanc．Committee on GTadin at Scbools of lutsing．1929－50；Professur of Jursing Education，1947；Deab © Simoo of liarsing 1940 －

## LELIA R．CL－ARK．R．I．．B．S．．M．．A． <br> －Assistani Professor of Vursing Education

Dipioma．Mount Sinai Hospizal School of Nursing．Philadelphia，Pa．．1932：Head Nurse． Moun：Sina：Hoapizal，1332－34：Nigh：Obstetrical Superviso－，Mourt Sinai Hospital， $195 \div$－ 6 ；Night Supervisor，Mount Sinai Hospital， $1936-38$ ；Certificate．Obstetrical Norsins．New Yés Hospitah，New Yota N．Y．．1939；Directer of Nursing．Memorial Gezeral Hospital，Ki－s：on … C．．19404；Aimy Nurse Copps，L＇SA and ETO，1942－4； Director of Jursing，Pitt Geneal．Hospitah．Greenville．N．C． $19+6.4 \%$ ；B．S．Degree， Columbia Tniversity．Vew York．…．．1918；M．A．．Columbia University，New York， …，19ب9；fsstiens Proiessor of Jurstng Educution，Duke Hosfitul，1949－．

## FRA．CCES C．IEFEERS，A．B．A．A．I． fisistant Profissor of Dursing Education and Counselor

A．B．．University of Missouri，1927．Secretary to the President，Haterford College，Haver－ iond．Pa．1930－40；Assistant Personnel Director，Unirersity of Washington，Seattle， Wasbington 1042 Evening Director of Student Activities House．College of City if New Yosi，New Yor＇s City，19t1ミ；A．M．，Teachers College，Columbia University． 19：5；Coüselot to Women．U＇nivessity of Alabama，University，Ala．，19＋5－47，fssistant Drafessor of liarsing Edacatien end Counselor，Duke C＇niversity Sithool of lursing， 29：～－

LUCI E．MASSEI．R．N．．B．A．，M．．A．<br>Assistunt Professor of Public Health Nursing

B．A．Randolph－Macon Woman＝College，1918；Diploma．Mount Sinai Hospital School of Jussing，I．1．1921；MA．Teacters College，Columbia U＇niversity，19＋1；Public Health－Jurse．Edzecombe $\mathrm{Co}_{\text {．，}}$ N．C．．1921－23；Ass＇t Editor．＂Hospital Social Serv－ ice．＂1923－2t：Field Nerse，Kemtucky State Board of Health，192j－28；Supervising Nutse，Rockeíeller Foundation Training Station．Indiamola．Miss．，1928－30；Professor of Puhic Healtin Jursinz，Richmond School of Sccial Work and Public Health， 1931 ．
 Assoc．Projessor of Public Health Nursing．Western Reserve Tniversity，1935－39； Director．Eastern Area Nursing Eervice．American National Red Cross．1939－40\％ Nurse Member．School Healih Service Coordinating Unit．Mississippi State Board of Healih and Siate Des：of Educatin，1013．46：Director，Division of Public Healih
 Fifciah Vistring．Duee Hospiact． $19 \pm 9$ ．

> DOROTHY MARI SMITH. R.N... B.S.. M.S.
> Assistun Professer of Jursing Education
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Difya．Quiscy Ciey Fospital．Quincy，Mars．，19：5；B．S．，Teachers College，Columbia U－aiversty．1：1：M．S．．Harvard Triversity．Boston，Mass．0 19t\％：General Duty， Quincy City Hcipia！1950：Aッ゙：Heac Nurse and Head Jurse Quiacy City Hos－ pital．Ig jif1：Science Instextor．Marzaret Pillsbury Hosputal．Concord，i．H．， 19－1．42：Science and Jursing Ars Instructor（Ass＇t），Quincy City Hospital，1942－43； Efucational Director and Science Instructur．Quiney City Hospital．1943\％；Assistant Proiesor cí Jursinz，Duke Hospital，ivt：－50；Direitor，Dicision of Jursing Education． Ditè Lisi：ersios，1950－．

WANDA SLAYBAUGH BOARDMAN, A.B., R.N., B.S. Instructor in Medical Nursing

Diploma. Saint Luke's Hospital School of Nursing, Cleveland, Ohio, 1944; A.B., Ohio Northern University, Ada, Ohio, 1944; B.S. in Nursing Education, Duke University, 1949; Assistant Head Nurse, Starling-Loving Hospital, Ohio State University, Columbus, Ohio, 1944-45; Army Nurse Corps, 1945-46; Instructor Nursing Arts. Instructor Medical Nursing, Janeson Memorial Hospital. New Castle, Pa., 19+6-47; Assistant Instructor Nursing Arts, Duke Hospital, 1947-49; Instructor in Medical Nursing, Duke Hospital, 1949-.

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## KYLE CARSON, R.N., A.B. <br> Instructor in Medical Nursing

Flora Macdonald College, Red Springs, N. C., 1927-31; Diploma in Nursing, Chesapeake and Ohio School of Nursing, Clifton Forge, Va., 1945; Post-graduate, Boston University, Boston, Mass., 1945; Science Instructor, Chesapeake and Ohio School of Nursing, 1945-48; Educational Director, Chesapeake and Ohio School of Nursing, 1948; Instructor in Medical Nursing, Duke Hospital, 1949-.

## N. RUTH CARTER, B.S., R.N. <br> Instructor in Surgical Nursing

B.S.. Oueens College, 1940-43; Diploma, The Johns Hopkins School of Nursing, 1946; Ass't Head Nurse, Acting Head Nurse, The Johns Hopkins Hospital, 1946-47; Orthopedic Staff Nurse, Charlotte Memorial Hospital, 1947; Ass't Night Supervisor, Duke University Hospital, 1947-48; Ass't in Surgical Nursing and Ass't Supervisor of Surgical Nursing Service, February 1948-Sept. 1948; Instructor in Surgical Nursing, Duke Hospital, 1948-.

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Mitchell College, Statesville, N. C., 1940-41; Diploma and B.S. in Nursing, Duke University School of Nursing, 1944; Head Nurse on Women's Medical Ward, Duke Hospital. July 1944-December 1944; Staff Nurse, Children's Hospital of Philadelphia, February 1945-April 1945; Assistant Clinical Instructor, Children's Hospital of Philadelphia, April 1945-Feb. 1946; Clinical Instructor in Pediatric Nursing and Assistant Supervisor of Pediatric Nursing Service, 1946-49; Instructor in Nursing Arts, Duke Hospital, 1949-.

## JULIA FLEMING, R.N., B.S. <br> Instructor in Psychiatric Nursing

Diploma, St. Anthony's Hospital, Denver. Colo., 1931; Staff Nurse, St. Anthony's Hospital, 1931-32; Head Nurse, 1932-33; Certificate in Psychiatric Nursing, Colorado Psychopathic Hospital, 1933-34; Private Duty, 1935-42: Clinical Instructor, Wyoming General Hospital, Rock Springs. W yo., 19+2-43; B.S. Degree in Nursing Education, Colorado University, 1947: Head Nurse, Colorado Psychopathic Hospital, 1947-48; Psychiatric Affiliation, Washington School of Nursing, 1948-49; Instructor in Psychiatric Nursing, Duke Uuiversity School of Nursing, 1949 -.

## NATALIE LOUISE LAVIN, R.N. <br> Instructor in Pediatric Nursing

Diploma, Trumbull Memorial Hospital, Warren, Ohio, 194t; Head Nurse on Pediatric Ward. Trumbull Memorial Hospital, Oct. 194+-Jan. 1946; W'estern Reserve University, Cleveland, Ohio, 1946-47; Staff Nurse, Pediatric Division, St. Luke's Hospital, Cleveland, Ohio, 1947-48; Duke University, 1948-49; Instructor in Pediatric Nursing, Duke Hosptial, 1949-.

ANNETTE M. RIDER, R.N., B.S.<br>Instructor in Obstetric Nursing

Diploma and B.S. in Nursing, Adelphi College of Nursing, Garden City, N. Y., 1946; Post-graduate Courses, New York University, 1947; Staff Nurse and Supervisor Obstetric Service, Meadowbrook Hospital, Hempstead, N. Y., 1947-48; Instructor and Head Nurse in Surgery, Meadowbrook Hospital, 1948-49; Instructor in Obstetric Nursing, Duke Hospital, 1949-.

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Diploma, University of Minnesota School of Nursing, Minneapolis, Minnesota, 1940; General Staff duty, Operating Room, Minmeapolis General Hospital, 1941-42; Assistant Floor Supervisor, Operating Room, Mimeapolis General, 1942-44; Instructor and Supervisor in Operating Room, Minneapolis General, 19+4-47; Clinical Instructor in Operating Room Technique, Duke Hospital, 1947-.

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## BETTY GREEN BASON, R.N., B.S. <br> Assistant in Nursing

Diploma, Duke University School of Nursing, 1946; B.S. in Nursing, Duke University School of Nursing, 1947; General Duty, Duke Hospital, 1946-47; Head Nurse, Duke Hospital, 1947-49; B.S. in Nursing Education, Duke University, 1949; Instructor in Medical Nursing, 1949-50; Assistant in Nursing, 1950-.

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B.E., Geneseo State Teachers College, Geneseo, N. Y., 1942; B.S., Cornell University, 1947; Diploma, Cornell University-New York Hospital School of Nursing, 1947; Clinical Instructor in Surgery, V.A. Hospital, Oteen, N. C., 1947-48; Clinical Nurse, Norburn Clinic, Asheville, N. C., 1948-49; Assistant iu Nursing, Duke Hospital, 1949-.

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## Supervisor in Obstetric Nursing

Diplona, Mission Hospital, Asheville, N. C., 1943; Head Nurse on Obstetrical Service, Mission Hospital, Sept. to Dec. 1943; Supervisor of Obstetrical Service, Mission Hospital, 1943-46; Post-graduate student, Margaret Hague Maternity Hospital, Jersey City, N. J., 1946 ( 6 months) ; Supervisor of Obstetrical Service, Mission Hospital, 1946-47: Instructor in Obstctric Nursing, Duke Hospital, 1948-.

## MILDRED M. SHERWOOD, R.N. Superitsor of Pediatric Nursing Service

Diploma, Mount Sinai Hospital, New lork City, 1923; Head Nurse, Mount Sinai Hospital, 1923-26; Head Nurse, Johns Hopkins Hospital, 1926-30; Supervisor of Pediatric Nursing Service, 1930-.

## MARGARET MILLER, R.N.

Assistant in Nursing
Queens College, Charlotte, N. C. 1931-32; Woman's College, University of North Carolina, Greensboro, N. C., 1942; Diploma, Duke University School of Nursing, 1946; Assistant Instructor in Surgical Nursing and Supervisor of Surgical Nursing Service, 1946-48; Clinical Instructor in Surgical Nursing and Supervisor of Surgical Nursing Service, 1946-Sept., 1948; Assistant in Nursing, Sept. 1948-.

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THELMA INGLES, R.N., B.A., M.A. Assistant Dircctor, Division of Nursing Education

B.A., University of California at Los Angeles, 1931; Diploma, Massachusetts General Hospital, 1936; M.A., Western Reserve University, 1942; Assistant Superintendent, Boston Nursery for Blind Children, 1936-37; Instructor, Burbank Hospital, Fitchburg, Mass;, 1937-38; Clinic Nurse, Cleveland, Ohio, 1938-42; Head Nurse, St. Luke's Hospital, Cleveland, Ohio, 1942-43; Educational Director, University of Virginia Hospital, 1943-45; Educational Director and Acting Superintendent, Admiral Bristol Hospital, Istanbul, Turkey, 1945-48; Assistant Director, Division of Nursing Education, Duke University, 1949-.
MASSEY, LUCY E., R.N., B.A., M.A., Associate Professor of Public Health Nursing.

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A.B., Wittenberg College, 1930; Diploma, Massachusetts General Hospital, 1936; M.N., University of Washington, 1949; Staff Nurse and Head Nurse, Sheppard and Enoch Pratt Hospital, 1936-38; Supervisor, Colorado Psychopathic Hospital, 1938-40; Instructor in Psychiatric Nursing, University of Washington, and Educational Director, Western State Hospital, Washington, 1940-42; U. S. Army Nurse Corps, 1942-45; Instructor and Supervisor, The Neuropsychiatric Institute, University of Michigan, 1946-49; Assistant Professor of Nursing. Education and Director of the Program in Advanced Psychiatrie Nursing, Duke Hospital, 1949-.
WILSON, FLORENCE K., B.A., M.A., R.N., Professor of Nursing Education.

## MEMBERS OF OTHER FACULTIES OF THE UNIVERSITY GIVING INSTRUCTION

EDWIN PASCAL ALYEA, S.B., M.D., Clinical Professor of Urology.
S.B., Princeton, 1919; M.D., Johns Hopkins, 1923; Int. in Med., Int. and Ass't Res. in Surg.; Ass't Res. and Res. in U'rol., Johns Hophins Hosp., 1923-1929; Ass't and Instr. in Surg., and Instr. in Urol., Johns Hopkins Med. Sch., 1925-1929; Urologist, Duke Hospital, 1930-.
WILLIAM BANKS ANDERSON, A.B., M.D., Professor of Surgery in Charge of Ophthalmology.
A.B., North Carolina, 1920; M.D., Johns Hopkins, 1924; Int.. Union Mem. Hosp., Balto., 1924-1925; Int., Mass. Eye and Ear Infirmary, 1925-1927; Ophthalmologist, Duke Hospital, 1930-.
LENOX DIAL BAKER, M.D., Professor of Surgery in Charge of Orthopaedics.
M.D., Duke, 1933; Int. in Orth. Surg. and in Gen'l Surg.; Ass't Res. in Orth. Surg., and Res. in Orth., Johns Hopkins Hosp., 1933-1937; Res., Children's Hosp. Sch., 1936; Ass't and Instr., Orth. Surg., Johns Hopkins Med. 'Sch., 1935-1937; Orthopacdist, Duke Hospital, 1937 -.
JASPER LAMAR CALLAWAY, B.S., M.D., Professor of Medicine in Charge of Dermutology and Syphilology.
M.D., Duke, 1932; B.S., Alabama, 1935; Ass't Instr. in Derm. and Syphil., Univ. of Pa. Med. Sch., 1932-1933; Int. and Ass't Res. in Med., Duke Hosp., 1933-1935; Instr, in Phys. Diag. and Path., Univ, of Alabana, Jan.-July, 1935; Instr. in Derm. and Syphil., Pa. Sch. of Med., 1935-1937; Ass't Field Physician, U. S. Public Health Serv., Feb.-July, 1937; Associate Physician and Dermatologist, Duke Hospital, 1937-.
BAYARD CARTER, A.B., B.A., M.A., M.D., Professor of Obstetrics and Gynecology and Chairman of the Department.
A.B., Delaware, 1920; B.A. and M.A., Oxford, 1923 and 1924; M.D., Johns Hopkins, 1925; Member Obs. and Gyn. Staff of New Haven Hosp. and Yale Med. Sch., 19251929; Assoc. Prof. Obs. and Gyn;, and Head of Dept., Univ. of Va. Med. Sch., 19291931; Obstetrician and Gynecologist, Duke Hospital, 1931-.

NORMAN FRANCIS CONANT, B.S., A.M., Ph.D., Professor of Mycology and Associatc Professor of Bactcriology.
B.S., Bates, 1930; A.M. and Ph.D., Haryard, 1931 and 1933; Research Fellow, Laboratoire de Parasitologie, Fac. de Medicine, Paris, 1933-1934; Research Ass't, Harvard Med. Sch. and Mass. Gen'l. Hosp., Jan. 1 to Oct. 1, 1935; Assoc. Prof. of Bacteriology and Mycology, 1935-1946; Mycologist, Duke Hospital. 1946-.
WILBURT CORNELL DAVISON, A.B., B.A., B.Sc., M.A., M.D., D.Sc., LL.D., Dcan of the School of Medicine and Professor of Pediatrics.
A.B., Princeton, 1913; B.A., B.Sc., and M.A., Oxford, 1915, 1916, and 1919; M.D., Johns Hopkins, 1917; D.Sc., Wake Forest, 1932; LL.D., North Carolina, 1944; Int., Radcliffe Infirmary, $1915-1916$; Capt., Med. Corps, A.E.F., 1917-1919; Ass't Res., Assoc. Ped., Acting Pediatrician in Charge, Johns Hopkins Hosp., 1919-1927; Instr., Med. Sch., 1919-1927; Pediatrician, Duke Hospital, 1927-.
SUSAN COONS DEES, A.B., M.S., M.D., Assistant Professor of Pediatrics. A.B., Goucher, 1930; M.D., Johns Hopkins, 1934; M.S., Minnesota, 1937; Int., Johns Hopkins Hosp., 1934-1935; and Ass't Res. in Med., Strong. Mem. Hosp., 1935-1936; Int. in Path., Balto. City Hosps., and Ass't, Johns Hopkins Protein Člinic, 1936 1937: Research Fellow in Ped., Univ. of Minnesota Hosp., 1937-1938; Ass't Disp. Physician, Johns Hopkins Hosp., 1938-1939; Assistant Pediatrician, Duke Hospital, 1939-.

WATT WEEMS EAGLE, A.B., M.D., Professor of Surgery in Charge of Otolaryngology.
A.B., North Carolina, 1918; Grad. Stud., North Carolina, 1918-1919; M.D., Johns Hop. kins, 1925; Int., Church Home and Infirmary, Baltimore, 1925-1926; Int., Ass't Res. and Res. in Laryngol., Johns Hopkins Hosp., 1926-1929; Ass't and Instr. in Laryngol., Johns Hopkins Med. Sch., 1927-1930; Otolaryngologist, Duke Hospital, 1930-

JEWETT GOLDSMITH, A.B., M.D., Assistant in Neuropsychiatry.
A.B., The Johns Hopkins University, 1938; M.D., University of Maryland, 19+2, Rotating Intern, Kings County Hospital, Brooklyn, N. Y., 1942-1943; Lieut., Medical Corps, U. S. Naval Reserve, 1943-1946; Veterans Administration Senior Resident in Psychiatry, Duke Hospital, 1946-.
JEROME SYLVAN HARRIS, A.B., M.D., Associate Professor of Pediaatrics and Biochemistry.
A.B., Dartmouth, 1929; M.D., Harvard, 1933; Med. House Officer, House of Good Samaritan, Boston, Oct., 1933-Jan., 1934; Int. in Med., Univ, of Chicago Clinics, 1934 1935; Int., Infants and Children's Hosp., Boston, 1935-1936; Ass't Res. and Assistant Pediatrician, Duke Hosp., 1936-1942; Lt. Col., Med. Corps, U. S. Army, 1942-45; Assistant Pediatrician, Duke Hospital, 1946-.

DERYL HART, A.B., A.M., M.D., Professor of Surgery and Chairman of the Departmont.
A.B. and A.M., Emory, 1916 and 1917; M.D., Johns Hopkins, 1921; Int. in Surg., Ass't Res. in Surg. Path., Ass't Res. and Res. in Surg., and Assoc. Surg., Johns Hopkins Hosp., 1921-1930;' Ass't in Path., Instr.. and Assoc. in Surg., Johns Hopkins Med. Sch., 1922-1930; Surgcon, Duke Hospita!, 1930-.
LESLIE BENJAMIN HOHMAN, A.B., M.D., Professor of Neuropsychiatry. A.B., Univ. of Missouri, 1912; M.D., Johns Hopkins, 1917; Int., Ass't Res. and Res., Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, 1917-1922; U. S. Army, 1917-1919; Priv. Practice, 1922-1943; Associate in Psych., Johns Hopkins, 1922-1924; Lecturer in Psych., Univ. of Maryland, 1939-1943; Comdr., Med. Corps, U. S. Navy, 1943-1946; Ass't Prof. of Psych., Johns Hopkins, 1944-1946; Neuropsychiatrist, Duke Hospital, 1946-.
HELEN LOUISE KAISER, R.P.T.T., Instructor in Physical Therapy, in Charge of Division of Physical Therapy.
R.P.T.T., Harvard, 1921: Ass't Instr., Harvard Med. Sch. Course for Graduates, 1921-1922; Chief Phys. Therap., Detroit Orthop. Clinic, 1922-1925; Cleveland Clinic Found., 1926, and Mt. Sinai Hosp., 1927-1943; Physical Therapist, Duke Hospital, 1943 —.
ANGUS McBRYDE, B.S., M.D., Associate Professor of Pediatrics.
B.S., Davidson, 1924; M.D., Pennsylvania, 1928; Int. and Res. in Ped., Univ. of Pa. Hosp., 1928-1930; Ass't Res. in Ped., Johns Hopkins Hosp. and Ass't in Ped., Johns Hopkins Med. Sch., 1930-1931; Assistant Pediatrician, Duke Hospital, 1931 -.

JOSEPH ELDRIDGE MARKEE, B.S., Ph.D., Professor of Anatomy and Chairman of the Department.
B.S. and Ph.D., Chicago, 1925 and 1929; Douglas Smith Fellow in Anat., 1929, Instr. in Anat., Chicago, 1929; Research Fell., Gen. Ed. Bd., Carnegie Lab. of Embry.. Balto, 1935-1936; Visiting Prof. of Anat., ''niv. of Tenn., 1942; Instr., Ass't Proi., Assoc. Prof. and Prof. of Anat., Stanford, 1929-1943; 1943-.
ElSIE W. MARTIN, A.B., M.S., Professor of Dietetics.
A.B., Whitman, 1913; M.S., Teachers Coll., Columbia, 1927; Prof. of Home Economics, Puget Sound, 1915-1917; Dietitian, Univ. of Iowa Hosp., 1919-1920, and Charles T. Miller Hosp., St. Paul, Minn.. 1920-1926; Admin. Dietitian, Lakeside Hosp., Cleveland, 1927-1930; Chief Dietitian, Duke Hospital, 1930-.

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B.A.. Texas Christian, 1937; M.D., Washington, $19+1$; Int., Rotat., Deaconness Hosp., St. Louis, Mo., 1941-1942; Ass't Res., Res. and Instr. in the Dept. of Anes., Billings Hosp., 1942-1944; Anesthetist, Duke Hospital, 194t-.

MARTHA ELIZABETH MATTHEWS, A.B., O.T.R., Director of Occupational Therapy.
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B.S. and M.D., Duke, 1936; Int., N. Y. State Sanatorium, Raybrook, July 1-Aug. 31, 1936; Int. in Med., Duke Hosp., 1936-1937; Research Fellow in Med. and Bact., Duke Med. Sch., 1937-1938; Ass't Cardiology, Mass. Gen. Hosp., 1938-1939; Res. in Tbc., Bellevue Hosp., New York City, Jan. 1.Dec. 31, 1939; Assistant Physician, Duke Hospital, 1910-.
EDWARD STEWART ORGAIN, M.D., Associate Professor of Medicine. M.D.. Virginia, 1930; Int. Ass't Res. and Res. in Med., Univ. Hosp., Cleveland, 1930-1933; Res. Fellow in Med., assigned to Cardiology, Mass. Gen'l Hosp., 1933-1934; Assistant Pliysician, Duke Hospital, 193£-.

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MARY CLYDE SINGLETON, B.S., R.P.T.T., Assistant in Physical Therapy. B.S., Woman's College, University of North Carolina, Greensboro, N. C., 1932; R.P.I.T. Washington School of Physical Education, Washington, D. C., 1934; Assistant in Physical Therapy, Watts Hospital, Durham, N. C., 1934.35; Assistant in Physical Therapy, Veterans Administration, Walla Walla, Washington, 1935-36; Clinicai Supervisor, Ply'sical Therapy Department, Duke Hospital, 1940-.
EUGENE ANSON STEAD, JR., B.S., M.D., Florence McAlister Professor of Medicine and Chairman of the Department.
B.S. and M.D., Emory Univ., 1928 and 1932; Int. Med., Peter Bent Brigham Hosp., 1932-1933; Research Fellow in Med., Harvard, 1933-1934; Int. Surg.. Peter Bent Brigham Hosp., 1934-1935; Ass't Res. in Med., Cincinnati Gen'l Hosp., 1935-1936; Res. in Med., Cincinnati Gen'l Hosp., 1936-1937; Instr. in Med., Univ. of Cincinuati, 1935-1937; Res. Phys., Thorndike Memorial Laboratory; Ass't in Med., Harvard and Boston City Hosp., 1937-1939; Associate in Med.. Peter Bent Brigham Hosp., 1939 1942; Instr. in Med., Harvard, 1939-1941; Assoc. in Med., Harvard, 1941-1942; Act. Phys.-in-Chief, Peter Bent Brigham Hosp., 19+2; Prof, of Med. and Phys.-in-Chief. Einory Div. of Grady Hosp., 19+2-19+6; Dean, Emory Univ. Sch. of Med., 1945-1946; Phy'sician, Duke Hospital, 1947-.

HAYWOOD MAURICE TAYLOR, B.S., M.S., Ph.D., Associate Professor of Biochemistry and Toxicology:
B.S., M.S., and Ph.D., North Carolina, 1920, 1921, and 1924; Instr. in Chem. and Pharmaceut. Chem., North Carolina, 1920-1925; Researcl Chemist, E. R. Squibb \& Sons, and Fisk Rubber Co., 1925-1928; Instr. in Ophthalmol., and Chemist to Wilmer Institute, Johns Hopkins Hosp., 1928-1930; Visiting Fellow in Forensic Med., New York Univ., 1934; Associate Bioclienist and To.xicologist, Duke Hospital, 1930-.

ELISABETH STELLE YEARICK, B.S., M.S., Therapeutic Dietitian.
B.S. and M.S.: University of Wisconsin, 1935; Intern in Dietetics, University of Michigan Hospital; Dietitian, State Welfare Home, Smyrna, Del.; Bridgeport Hospital, Bridgeport, Conn.; Mound Park Hospital, St. Petersburg, Fla., Therapcutic Dietitian, Duke Hospital, 1946-.
COLLEEN CAUSEY, R.N., Director, School of Practical Nursing.
Diploma, The King's Daughters' Hospital School of Nursing, 1946; Woman's College, Duke University, 1946; Head Nurse, The King's Daughters' Hospital, 1947; Instructor in Nursing Arts, The King's Daughters' Hospital School of Nursing, 1947-48; Assistant Director, School of Practical Nursing, Duke Hospital, 1948-49; Director, School of Practical Nursing, July 1949-.
ETHEL INA SHOSTERMIN, R.N., Assistant Director, School of Practical Nursing.
Diploma, Beth Israel Hospital School of Nursing, Boston, Mass., 1946; General Duty, Private Ward, 1946: Head Nurse, Pediatrics, Beth Israel Hospital, 1947.49; Burdett College, Lymn, Mass., 1949; Assistant Director, School of Practical Nursing, Duke Hospital, 1949-.

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## MARGARET I. BERRY, R.N. <br> Student Health Serice N'urse

Diploma, Rex Hospital School of Nursing, Raleigh, N. C., 1930; Operating Room Nurse, Emergency Hospital, Washington, D. C., 1935-38; Supervisor O.R., N. C. State Prison Hospital, 1938-40; General duty, Halifax Hospital, Daytona Beach, Fla., 1940-2; University of North Carolina Public Health Course, Chapel Hill. N. C., 19+2-43; Instructor, State Board of Health of South Carolina, 19+3•45; State Board of Health of North Carolina, 1945-47; Instructor, State Board of Health of Florida, 1947-48; State Board of Health of Virginia, 19+8-49; Studcut Hcalth Scraice Nursc, Duke Unizcrsity Schoo! of Nursing, 1950-.

## RESIDENCES

## HELEN W. ABBOTT, R.N. Director of N'urses' Residences

Diploma, Johns Hophins School of Nursing, 1914; Private duty, Baltimore, MI.., 1914-15; Operating Room and Pediatric Supervisor, Bellevue Allied Hospitals, 1915-16; Nursing Arts Instructor, Augusta 'niversity Hospital. 1917; Supervisor of Nurses' Quarters. Fort Meade, Md., 1918; Practical Nursing Instructor, Army School of Nursing, Fort Meade, Md., 1919: Dircctor of Nurses' Residcnces, Duke Hospital, 1930-.

## ASSISTANT RESIDENCE DIRECTORS

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## NURSING STAFF OF DUKE HOSPITAL

WILSON, FLORENCE K., A.B., R.N., M.A. Dean of the School of Nursing,

Faculty Apartments Director of Nursing Service
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## SUPERVISORS

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BATCHELDER, MARION FRANCES, R.N., Superisor of the Operating Room.
Diploma, Peter Bent Brigham Hospital School of Nursing, Boston, Mass., 1920; Head Nurse, 1921-23; Supervisor of Operating Room, Peter Bent Brigham Hospital, 1923-27; Head Nurse, Operating Room, Johns Hopkins Hospital, 1927.1930; Superzisor of the Operating Roon, 1930-.
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CARSON, KYLE, R.N., A.B., Chesapeake and Ohio School of Nursing. Instructor in Medical Nursing.
CARTER, N. RUTH, B.S., R.N., The Johns Hopkins School of Nursing. Instructor in Surgical Nursing.
DRATZ, DOROTHY DEATON, R.N., Supcrvisor, Nursing Service.
Flora Macdonald College, Red Springs, N. C., 1931-32; Diploma, Duke University School of Nursing, 1941; General Duty, 1941-42; Assistant Head Nurse on Surgical Ward, 19+2; Assistant Head Nurse on Men's Medical Ward, 1942-43; Head Nurse in Delivery Room, 1943-44; Head Nurse on Private Medical Ward, 1944-45; Private Floor Supervisor, 1945-49; Superzisor, Nursing Service, Duke Hospital, 1949-.
ELLIOTT, GERTRUDE HERMIE, R.N., Mission Hospital. Instructor in Obstctric Nursing.
GODEFROY, HANNAH NORRIS, R.N., Assistant Supcreisor, Night Nursing Scraice.
East Carolina Teachers College, Greenville, N. C., 1943-44; Diploma, Duke University School of Nursing, 1947; General Staff, Duke University Hospital, 1948; Assistant Superivor, Night Nursing Scraice, Duke Hospital, 1949-.
GOODRUM, MARGARET L., R.N., B.S., Supervisor, Nursing Service.
Diploma, The Charlotte Sanatorium, Charlotte, N. C., 1932; General Staff Duty, Operating Room, The Charlotte Sanatorium, 193+36; Operating Room Supervisor, Broward General Hospital, Fort Lauderdale, Fla., 1936-38; Post-graduate Course in Operating Room Technique, and General Staff Duty, New York Hospital, N. Y., 1939 40; Assistant Operating Room Supervisor, Duval County Hospital, Jacksonville, Fla., $19+0-41$; Operating Room Supervisor, U. S. Army Nurse Corps, U.S.A.; 1941-43; Chief Nurse, U. S. Army Nurse Corps, $1943-46 ;$ B.S. Degree, Woman's College, Duke Universtỳ, 1948-49; Supervisor, Nursing Service, Duke Hospital, 1949-.
HARDING, OLIVE, R.N., Assistant Supcrizisor of the Opcrating Room.
Carson-Newman College, Jefferson City, Tennessee, 1918-21; Diploma, Kings Mountain Memorial Hospital, Bristol, Va., 1929; Valparaiso University, Valparaiso, Ind., 1923; Night Supervisor, Marsh Hospital, Kingsport, Tenn.. 1929;' Post-graduate Course in Operating Room, Cook County Hospital, Chicago, Ill., 1930; General Duty, Duke Hospital. 1930-34; Head Nurse in Operating Room, 1934-42; Assistant Supervisor of the Operating Room, 1942 -.

KNIGHT, DORIS V., Assistant Supervisor, Night Nursing Service.
Winthrop College, Rock Hill, S. C., 1943-44; Diploma in Nursing, Duke University School of Nursing, 1947 ; B.S. Degree in Nursing, Duke University, 19+8; General Duty, Duke Hospital, 1948; Assistant Head Nurse, Duke Hospital, 1948-49; Instructor, Highsmith Hospital School of Nursing, Fayetteville, N. C., 1948-49; Assistant Supervisor, Night Nursing Service, 1949-.
LEONARD, MYRTLE F., R.N., Evening Supervisor.
William and Mary College, Richmond, Va., 1926; Teachers College, Columbia University, 1928; Simmons College, Boston, Mass., 1931-32; University of North Carolina, 1949; Duke University, 1946-49; Staff Nurse and Head Nurse, Duke Hospital, 1946. 49; Evening Supervisor, Duke Hospital, 1949-.
MOSS, ELSIE GERTRUDE, R.N., Night Supervisor.
Diploma, Philadelphia General Hospital, Philadelphia, Pa., 1935; Staff Nurse, Duke Hospital, 1935-41; Second Assistant to the Night Supervisor, 1941-42; First Assistant to the Night Supervisor, 1942-44; Private Floor Supervisor, 1944-45; First Assistant to the Dean, 1945-46; Director of the School of Nursing, Carolina General Hospital, Wilson, N. C., October, 1946-May, 1947; Night Supervisor, Duke Hospital, July, 1947-.
RIDER, ANNETTE M., R.N., B.S., Adelphi College of Nursing. Instructor in Obstetric Nursing.
SHERWOOD, MILDRED M., Mount Sinai Hospital School of Nursing. Assistant in Pediatric Nursing and Supervisor of Pediatric Nursing Service.
SUITT, JULIA B., Superivisor, Out-Patient Clinic.
North Carolina College for Women, Greensboro, N. C., 1919-20; Diploma, Duke University School of Nursing, 1934; Assistant Head Nurse, Medical Ward, 1934-36; Head Nurse, Private Surgical Ward, 1936-43; Supervisor, Out-Patient Clinic, 19\#3-.

## HEAD NURSES

Clegg, Elizabeth, Duke University School of Nursing.
Head Nurse on Men's Surgical Ward.
DeYoung, Mary H., Duke University School of Nursing.
Head Nurse on Pediatric I'ard.
Diggs, Gerry, Duke University School of Nursing.
Head Nurse on Women's Medical Ward.
Emlet, Ruth S., A.B., B.S., Duke University School of Nursing. Head Nurse in Operating Room.
Fawcett, Barbara Allen, The Johns Hopkins School of Nursing. Head Nurse on Men's Medical Ward.
Gambill, Frances E., Davis Hospital School of Nursing. Head Nurse on Women's Surgical Ward.
Gutierrez, Nannie P., Watts Hospital School of Nursing. Head Nurse on Private Surgical I'ard.
Mason, Lillian, Watts Hospital School of Nursing. Head Nurse on Colored Obstetrical and Gynecological IT'ard.
Melvin, Margaret, Nashville General Hospital. Head Nurse on Obstetrical Ward.
Mobley, Ruth, King's Daughters' Hospital School of Nursing. Head Nurse in Delicery Room.
Pegram, Ruth, B.S., Duke University School of Nursing. Head Nurse on Obstctrical W'ard.
Petrea, Margaret, A.B., B.S., Duke University School of Nursing. Head Nurse on Men's Surgical IVard.
Rainwater, Julia, B.S., Duke University School of Nursing. Head Nurse on Prizate Medical Ward.

Richardson, Grace J., University of Tennessee School of Nursing. Head Nurse on Psychiatric Ward.
Rupp, Barbara, Mountainside Hospital School of Nursing. Head Nurse on Women's Surgical and Gynecological H'ard.
Sawyer, Mary Harriet, Duke University School of Nursing. Head Nurse in Operating Room.
Shaw, Barbara, Mountainside Hospital School of Nursing. Head Nurse on Colored Medical and Surgical Ward.
Speth, Anna Beth, Duke University School of Nursing. Head Nurse on Private Medical Ward.
Taylor, Naxcy, Charlotte Sanatorium School of Nursing. Head N'urse on Prizatc Surgical Ward.
Torrence, Eleanora, Knoxville General Hospital School of Nursing. Head Nurse on Surgical Pediatric Ward.
Wellman, Lorene, Grace Hospital School of Nursing. Head Nurse in Premature Nurscry.

## ADMINISTRATIVE NURSES IN OUT-PATIENT DEPARTMENT

Atkins, Lillian, Mary Elizabeth Hospital School of Nursing. Administrative Nurse in Dispensary (Dept. of Gynecology).
Cobb, Mary Bernice, B.S., Duke University School of Nursing. Administratice Nurse in Dispensary (Urology Clinic).
Dortch, Joyce, Duke University School of Nursing. Administratice Nurse in Dispensary (Relicf Nurse).
Ferguson, Hazel McCoy, Duke University School of Nursing. Administrative Nurse in Dispensary (Orthopaedic Clinic).
Hedrick, Betty, B.S., Duke University School of Nursing. Administrative Nurse in Dispensary (Bronchoscopic Clinic).
Kaleel, Adele, De Paul School of Nursing. Administratice Nurse in Dispensary (Pediatric Clinic).
Marks, Louise, Johnston-Willis Hospital School of Nursing. Administrative Nurse in Dispensary (White Medical Clinic).
Newman, Sallif, B.S., Duke University School of Nursing. Administrative Nurse in Dispensary (Psychiatric Clinic).
Niblock, Jamie, Guilford General Hospital School of Nursing. Administratice Nurse in Dispensary (Dept. of Obstetrics and Gynceology).
Perry, Sarah, Statesville Training School for Nurses. Administratic'e Nurse in Dispensary (Colored Mcdical Clinic).
Reese, Eva, Watts Hospital School of Nursing. . Administratiz'c Nurse in Ophthalmology Diaision.
Scott, Martha, Shelby Hospital School of Nursing. Administrative Nurse in Dispensary (Surgical Clinic).

## GRADUATE STAFF

Alderman, Rebecca, Duke University School of Nursing. Auter, June Madeline, Duke University School of Nursing. Ballard, Frances, B.S., Duke University School of Nursing. Barnhart, Betty, Duke University School of Nursing. Bennett, Jean E., B.S., Duke University School of Nursing.

Bersebach, Dorothy; Massachusetts General Hospital School of Nursing. Bland, Mrra, B.S., Duke University School of Nursing.
Bock, Floride, State Hospital School of Nursing.
Brackett, Nancy O., St. Leo's School of Nursing.
Bray, Ida Paulette, Duke University School of Nursing.
Bruton, Ruth, Duke University School of Nursing.
Bryant, Dorothy, Winchester Memorial Hospital.
Buchanan, Barbara B., B.S., Duke University School of Nursing.
Burnett, Ollie Smith, Memorial Hospital School of Nursing.
Burroughs, Norita, Duke University School of Nursing.
Butler, Jean, Methodist Hospital School of Nursing.
Byatt, Patricia Añ, B.S., Russell Sage School of Nursing.
Cahill, Letia G., Massachusetts General Hospital School of Nursing.
Cain, Ifa O., Cumberland Memorial Hospital School of Nursing.
Carson, Lenna I., Duke University School of Nursing.
Conlox, Carmel, St. Francis Xavier Infirmary.
Dagenhart, Anve G.. H. F. Long Hospital School of Nursing.
Davis, Pacline, Duke University School of Nursing.
Davis, Ruth E., B.S.. Duke University School of Nursing.
Day, Betty, Medical College of State of South Carolina.
Dietz, Dorothy; St. Vincent's Hospital School of Nursing.
Donafañ, Miriam A., B.S., Duke University School of Nursing.
Farrar, Helen L., B.S., Duke University School of Nursing.
Foster. Cora S., Duke University School of Nursing.
Frace, Betty Jeas, Hahnamann Hospital School of Nursing.
Franklin. Virginia, Duke University School of Nursing.
Galloway, Olive, B.S., Emory University School of Nursing.
Garland, Zeta, B.S., Duke University School of Nursing.
Gilbert, Elizabeth, Watts Hospital School of Nursing.
Gilliland, Nancy, Greenville General Hospital School of Nursing.
Goswick, Agnes S., James Walker Hospital School of Nursing.
Griffin, Ethel L., Duke University School of Nursing.
Gryder, Hilda, H. F. Long Hospital School of Nursing.
Hamar. Wanda Jean, Duke University School of Nursing.
Harrison, Gladrs V.. Elizabeth Buxton Hospital School of Nursing.
Hampton, Mamye, Grace Hospital School of Nursing.
Haskins, Jessie S.. Norfolk Protestant Hospital School of Nursing.
Hoxeycutt, Ancie R., Duke University School of Nursing.
Hubbard, Phyllis, Duke University School of Nursing.
Hultin, Virgisia, Massachusetts General Hospital School of Nursing.
Johnsox, Nancy S., City Memorial Hospital School of Nursing.
Johnsox, Ruth A., Massachusetts General Hospital School of Nursing.
Jones, Mildred L., Community Hospital School of Nursing.
Kerce, Mary Ellen, Duke University School of Nursing.
King, Betty, Grady Memorial Hospital School of Nursing.
Kira, Leona, Charles S. Wiilson Memorial Hospital School of Nursing.
Knight, Mary Flake, B.S., Duke University School of Nursing.
Kenny, Doris J.. Winchester Memorial Hospital School of Nursing.

Kosinski, Johnsie, Duke University School of Nursing.
Lackman, Mary N., B.S., Duke University School of Nursing.
Langford, Rose Hope, University of Virginia School of Nursing.
Lewis, Irvin, University of Virginia School of Nursing.
McClamb, Lois Bernice, Community Hospital School of Nursing.
Mckinnon, Doris, Mercy Hospital School of Nursing.
Matthews, Elsie, Capital City School of Nursing.
Melton, Velma, South Carolina Medical College.
Michael, Elinor E., Medical College of Virginia.
Miller, Jacqueline, Presbyterian Hospital School of Nursing.
Miller, Margaret E., University of Pennsylvania School of Nursing.
Moll, Mary, University of Pennsylvania School of Nursing.
Moncure, Frances, B.S., Duke University School of Nursing.
Moody, Nascy, Muhlenberg Hospital School of Nursing.
Morgan, Doris L., B.S., Duke University School of Nursing.
Muller, Dorothy R., Duke University School of Nursing.
Nalley, Maybelle, General Hospital School of Nursing.
Painter, Anna C., Duke University School of Nursing.
Parker, Della, South Mississippi Charity Hospital School of Nursing. Paschall, Evelyn, Watts Hospital School of Nursing.
Patton, Arlene, University of Pennsylvania Hospital School of Nursing.
Pearson, Helen Scott, B.S., Duke University School of Nursing.
Perry, Nellie, Community Hospital School of Nursing.
Pierce, Carolin S., B.S., Duke University School of Nursing.
Plyler, Helen, B.S., Duke University School of Nursing.
Porter, Mary V., Louisville General Hospital.
Prevatt, Sarah C., Duke University School of Nursing. Pryor, Julia, Duke University School of Nursing.
Putacam, Elizabeth Jean, Johns Hopkins School of Nursing. Reilly, Betty D., B.S., Yale School of Nursing.
Ricketts, Margaret M., Frances Payne Bolton School of Nursing.
Rollins, Lillian, Watts Hospital School of Nursing.
Russell, Arlette S., St. Charles School of Nursing.
Rutledge, Ellen, South Highland Infirmary.
Sandstron, Oma, Emory University School of Nursing.
Seltsam, Laura, Cleveland City Hospital School of Nursing.
Shope, Barbara, B.S., Duke University School of Nursing.
Stearns, Doris, N. C. Baptist Hospital School of Nursing.
Tatom, Vondelle, Piedmont Hospital School of Nursing.
Thompson, Elizabeth R., Duke University School of Nursing.

Turbeville, Marie, B.S., Duke University School of Nursing. Vail, Eleanor, B.S., Duke University School of Nursing.
Van Steenberg, Neal, B.S., Duke University School of Nursing.
Wall, Bettye, B.S., Duke University School of Nursing.
Weatherman, Lucille, City Memorial Hospital School of Nursing.
Whisnant, Carolyn E., Memorial Hospital School of Nursing.
Whitaker, Myrtle, Brantwood Hospital School of Nursing.
White, Charlotte, John Gaston Hospital School of Nursing.
Wilder, Ilene B., State University of Iowa.
Williard, Ruth, Duke University School of Nursing.
Wilson, Ossie R., Watts Hospital School of Nursing.
Wright, Barbara J., Methodist Hospital School of Nursing.
Wright, Mary Jane, Duke University School of Nursing.

## DUKE UNIVERSITY SCHOOL OF NURSING

## OPPORTUNITIES IN NURSING

Health services to the people of the United States are being expanded at a rery rapid rate. Most of the states are at present engaged in studying the need for hospitals and making plans to meet these needs. Departments of Health are making surveys as to the adequacy of their programs and how these programs may be integrated with the programs of hospitals to meet the needs of the population for medical care. These expanding activities call for more personnel with professional preparation.

The professional nurse must recognize physical symptoms of illness which are commonly identified with organic changes. She must also recognize those heretofore less considered manifestations of illness such as anxieties, conflicts, and frustrations, which have a direct influence on organic changes and are now thought to be the result of an incompatible interaction between a person and his environment.

Nurses in their longer contacts with individuals have more opportunities to observe behavior and to listen to expression of thought under varying conditions than do physicians whose contacts are necessarily intermittent and brief. For this reason the nurse must be able to direct her actions and her verbal expressions on the basis of a sound understanding of human behavior and human relationships. She must be able to assess the health needs of the family and community as well as the individual.

The first preparation needed for meeting the requirements in the field of nursing is secured in a school of nursing. For well qualified candidates this school should be a collegiate school offering a program which will give a good basic understanding of the principle and practices of the art of nursing. After graduation from the school of nursing the student may wish preparation needed for the work of a head nurse, supervisor or other administrative position in a hospital or public health organization.

To give the applicant for admission to a school of nursing information as to the admission requirements, programs, fees and living arrangements for preparation in nursing, we offer this bulletin describing the following programs.

1. Programs for basic preparation in professional nursing at the Duke University School of Nursing leading to a diploma in nursing and admission with advanced standing to a degree program. (Pages 20-22.)
2. Programs for preparing head nurses, supervisors and administrators for schools of nursing and nursing services in hospitals and other health organizations as planned in the Division of Nursing Education, Duke University, Durham, N. C. (Pages 30-37.)
3. Programs for preparing nurses for public health nursing as planned by the School of Public Health, University of North Carolina, Chapel Hill, N. C. (Pages 38-40.)

## THE SCHOOL OF NURSING

## GENERAL INFORMATION

The School of Nursing of Duke University was established in 1931 in association with the School of Medicine of the Unisersity and Duke Hospital through the gift of the late James B. Duke. The administrator of the School of Nursing is a member of the Executive Committee of the Medical School, Nursing School and Duke Hospital which promotes the common interests of the three organizations.

The central aim of the educational program is to select young women with aptitudes, interests and personal characteristics needed in nursing, and to provide an educational program enabling them to develop skills, knowledge and attitudes needed for professional nursing service in the community and for maximum personal development.

This program is designed to prepare nurses for:

1. General duty in hospitals.
2. Private duty in hospitals and homes.
3. First level positions under supervision in public health nursing agencies.

## FACILITIES FOR INSTRUCTION

The facilities for instruction include the facilities for instruction arailable in the undergraduate, professional and graduate schools and colleges of Duke University and the clinical facilities of Duke Hospital.

## CLINICAL FACILITIES

Duke Hospital has every modern convenience for the diagnosis, proper nursing care, welfare and comfort of the patients including $60+$ hospital beds, a large public out-patient department, a large private diagnostic clinic and offices and examining rooms for the doctors who serve on the staff of the hospital. There are very close relationships established between the hospital and the Health Departments in North Carolina. A system for referral of patients to the nursing service of the Health Departments has been established between the supervisors of the nursing service in the hospital and the nursing service of the Health Department.

The beds in Duke Hospital are assigned to the various services as follows: Medicine, including dermatology and neurology, has 75 ward beds; surgery, including urology, otolaryngology, ophthalmology, and orthopaedics, 148 ward beds; obstetrics, including gynecology, 56 , and 50 bassinets; neuropsychiatry, 27 ; and pediatrics, 40 . There are 222 private and semi-private rooms, 7 air-conditioned operating rooms, and 4 obstetric delivery rooms. Except for emergencies, all patients are admitted to the hospital from either the out-patient clinic or the private diagnostic clinic.

The hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association.

The out-patient department has an average of 353 visits per day. All services including psychiatry carry on an active program in the out-patient departments. Students are assigned to the out-patient department for at least four weeks during their program in the School of Nursing. The first assignment is in the first year, to give the student some knowledge of the background of her patients; subsequent assignments are made concurrent with the experience on each service.

## LIBRARIES

The reference library of 2,298 books and periodicals of special interest to students majoring in nursing is located in Baker House. Students may use the general libraries on the East and West Campuses and the Duke Hospital Library. A collection of visual aids including films is being assembled with an index in the library for the use of students and instructors in the School of Nursing.

## APPLICATION FOR ADMISSION

Applications for admission to the School of Nursing should be made to the Committee on Admissions of the School of Nursing, Box 3714 Duke Hospital, Durham, N. C. Application forms will be sent on request.

## ADMISSION

Since the profession of nursing requires women with a high sense of integrity and responsibility, with culture and intelligence whose predominant interest is service, the Admissions Committee will select the applicants who, in its opinion, seem best qualified for nursing. The Admissions Committee must have on file the records indicating the fulfillment of the following requirements before considering an applicant.

1. Graduation from high school with sixteen units of credit as indicated.
2. One year of college with the semester hours of credit as indicated.
3. Aptitude and achievement tests.
4. Three recommendations.
5. Interviews.
6. Physical and dental examination.

## SPECIFIC REQUIREMENTS

I. An applicant for admission to the School of Nursing must present at least sixteen acceptable units of secondary school credit. A unit of credit is allowed for a course of study pursued throughout an academic year at an accredited secondary school, if the course has been completed satisfactorily.

1. Twelve units must be in English, foreign language, history and social studies, mathematics, and natural science ; and must include:
(a) English-3 units.
(b) Algebra-1 unit.
(c) Plane geometry-1 unit.
2. Four units may be in the subjects listed above or from those in the following table. The units indicate the maximum amount of credit acceptable in each subject:
Agriculture 2 Mechanical Drawing ..... 2
Art 1 Music ..... 1
Commercial Subjects .............. 3 Physical Geography ..... 1
Economics 1 Sociology ..... 1
Household Economics 2 Woodworking, Machine Work ..... 2

Other units offered in subjects not included in this list will be considered for acceptance on the basis of full statements transmitted with the applicant's record from the school recommending her.

If students make satisfactory scores on a scholastic aptitude test, the above requirements wili not be rigidly adhered to by the School of Nursing.
II. One year of college work is required for admission to the Duke University School of Nursing. This work may be taken at any accredited college or university and should include the following courses:
S.H.
English ..... 6
Chemistry ..... 8
Zoology or Biology ..... 4
History, Economics or Political Science ..... 6Electives (Foreign Language, Literature, Mathe-matics, Religion, History, Appreciation of Artor Music and Physical Education)8

Students who wish to complete requirements for the degree of Bachelor of Arts after graduation from the School of Nursing should take six credits of foreign language during the Freshman year. Those who submit two or more units of one language in high school are advised to continue with that language in college. If the college will not allow two sciences in the first year, the one not taken in high school should be selected.
III. Satisfactory scores on a battery of aptitude and achievement tests.
IV. Three recommendations, two of which must come from recent high school or college instructors.
V. Interviews with two members of the Duke University School of Nursing faculty, whenever possible.
VI. Records of recent physical and dental examination.

A physical examination at Duke Hospital is required for final acceptance into the School of Nursing. This examination includes a chest x -ray and a tuberculin test.

Students who attend college more than one year before entering the School of Nursing are advised to take the following courses:

## S.H.

Literature .............................................. 6
Psychology . ......................... . . . . . . . . . . . . 3-6
Sociology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3-6
Religion, Ethics or Philosophy ................. 6
Language (second year of same language taken in first year)6
Electives (Physical Education) ..... 2-8

| Tuition | First lear . $\$ 100.00$ | Second Year $\$ 100.00$ | Third Year $\$ 100.00$ |
| :---: | :---: | :---: | :---: |
| Books (Estimated) | 40.00 | 10.00 | 10.00 |
| Pre-entrance tests | 5.00 |  |  |
| Activities | 15.00 | 15.00 | 15.00 |
| Graduation |  |  | 3.00 |
| Diploma |  |  | 5.00 |
| Degree |  |  | 5.00 |
| Cap and Gown Rental |  |  | 1.25 |
| Room Key Deposit | 1.00 |  |  |
| Uniforms ......... | 84.20 |  |  |
|  | \$245.20 | \$125.00 | \$139.25 |

The fee for pre-entrance tests and health examination is payable at time testing is done. Checks should be made payable to Duke University.

No student is permitted to attend classes until she has complied with all regulations concerning registration and payment of bills for the term.

Arrangements for purchase of uniforms are made with the uniform company late in September. At that time, $\$ 68.70$ of the cost of the uniforms is paid.

A fee for public health nursing will be added in the Senior year when arrangements for the experience are completed.

Duke Hospital provides board, room and laundry for students in the School of Nursing. The rooms in the residence are fully equipped. Twenty-five dollars of the tuition fee is payable upon receipt of the acceptance letter, the balance is due upon admission.

Fees for courses which require registration in the Woman's College are charged upon the basis of hours of credit.

## LOAN FUND AND SCHOLARSHIP

Through the generosity of the Kellogg Foundation, loan funds sufficient to cover tuition costs are available to students who demonstrate a real need and who are qualified. There are also a limited number of tuition scholarships for exceptionally qualified students.

Residents of North Carolina and others upon recommendation may secure loans from the Medical Care Commission of North Carolina. The conditions under which these loans are granted will be supplied upon inquiry addressed to the Dean of the School of Nursing.

## RESIDENCES

Students are housed in the fireproof residences located near the hospital. Rooms are adequately equipped with blankets and linen, making further provision by the student unnecessary. Life in the dormitories is under the regulations established by the Student Govermment Association with advice from the faculty.

## HEALTH REGULATIONS AND PHYSICAL EDUCATION

The School has general supervision of the student's health. All physical defects, such as defective vision, dental needs, etc., must be corrected
before admission to the School. The student must have been immunized against typhoid fever and vaccinated against smallpox during the current year. All students are required to pass a physical examination before admission to the School of Nursing and at intervals thereafter, a final examination being given at the end of the course. Students whose condition needs further observation may be admitted tentatively: but must cancel their application if later findings prove them plysically unfit for nursing. Students about whom it is decided that tonsillectomy or other surgery was indicated before admission to the School, or students under care of a private physician for some minor complaint which does not interfere with the practice of nursing but requires hospitalization and surgery, may be asked to pay for this care by the Hospital.

Students are allowed two week's' sick leave during the three-year course.

## ACTIVITIES OFFERED

Swimming, basketball and softball are offered as student activities, in addition to social activities. First-year students are required to elect either swimming or basketball.

## READMISSION

Students who are absent for more than one month on account of illness or have leave of absence may be readmitted to the same or a succeeding class at the discretion of the faculty.

## LEAVE OF ABSENCE

Students are not expected to leave the School because of family or other personal reasons. Absence from the School is granted only in extreme cases. If a student is obliged to be away for a period exceeding four weeks, the Dean of the School of Nursing will determine the date of her return and the question of resuming her place in her original class.

## DISMISSAL

The faculty of the School of Nursing may, at any time, place a student on probation or release her from the School if. in its opinion, she does not have the qualifications necessary for the profession.

## THE DUKE UNIVERSITY SCHOOL OF NURSING ALUMNAE ASSOCIATION

The Duke University School of Nursing Alumnae Association was formed for the purpose of rendering mutual help and improvement in professional work, and for the promotion of good fellowship among the graduates of the School.

The Alumnae Association co-operates with the North Carolina State Nurses' Association and the American Nurses' Association in working for the professional and educational advancement of nursing.

Alumnae Notes, a quarterly news publication, furnishes items of interest to the members of the Association.

## SANTA FILOMENA

Santa Filomena, Senior Honorary of the Duke University School of Nursing, was organized in April, 1944, under the sponsorship of the 1943 class. The purpose of this organization is to recognize achievement and promote leadership.

The members are chosen from the rising Senior Class and are publicly tapped by the old members at the first meeting of the SGA in their Senior year, the number chosen not exceeding nine or being less than five. Each candidate must show recognized qualities of leadership or must have made some contribution toward the betterment of the School of Nursing. She must have demonstrated superior nursing abilities and her scholastic record must be eighty or above throughout her first two years.

Santa Filomena strives for better interclass relations, and to promote better nursing and higher nursing standards. The specific objectives are chosen by the members each year. All proceedings of the meetings of this organization are held in secrecy as are all ceremonies except the public tapping of the new members. The Santa Filomena's flower is the white lily and the members wear a small gold Florence Nightingale lamp

## AWARDS TO NURSES

## BAGBY AWARD IN PEDIATRICS

The Bagby Award in Pediatrics (a subscription to the American Journal of Nursing) is given at graduation to the best Duke student nurse in pediatrics.

## THE FLORENCE NIGHTINGALE PLAQUE

The Florence Nightingale plaque is awarded to a graduating student by the Alumnae Association for leadership, scholarship and nursing skill.

## THE MOSELEY AWARD

The Moseley Award of $\$ 25.00$ is given to the student in the senior class who has shown the most skill in Nursing Arts throughout her program in the School of Nursing.

## PROGRAM OF THE SCHOOL OF NURSING

The program of the School of Nursing covers a period of three calendar years with one month of vacation each year. At the completion of this program, the student receives the diploma in nursing and is then eligible for the examinations given by the North Carolina State Board of Nurse Examiners. The School is fully approved by the North Carolina Joint Committee on Standardization.

## COMBINED ACADEMIC-PROFESSIONAL PROGRAMS IN NURSING

Students who have been graduated from the Duke University School of Nursing with an average grade of "C" or better may, upon recommendation by the Dean of the School of Nursing, apply for admission to the Woman's College of Duke University. If accepted she may obtain the degree of Bachelor of Arts or Bachelor of Science from Duke University by fulfilling the requirements for the degree of choice. Forty semester hours of credit toward these degrees are given for the three-year nursing program or toward the degree of Bachelor of Science in Nursing Education for those showing ability in teaching. See pages 30-31.

The program of studies leading to the degree of Bachelor of Arts is as follows:

1. Minimum requirement of the Undergraduate College of Arts and Science:

|  | S.H. |
| :---: | :---: |
| English 1-2 | 6 |
| Natural Science | 8 |
| Language (completion of the third college year) | 6-18 |
| Religion | 6 |
| History, Economics or Political Science | 6 |
|  | 32-44 |
| sic nursing program |  |
| least twelve semester hours in one depa n nursing in courses not primarily open | other <br> hmen |

4. Electives . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 24-36

In addition to twelve semester hours in one department, the program must include 24 semester hours in courses numbered 100 or above.

A total of 124 semester hours credit and 124 quality points is required for graduation.

Students who have been graduated from the Duke University School of Nursing may obtain the degree of Bachelor of Science by fulfilling all requirements for that degree. Forty semester hours of credit toward this degree are given for the three-year program in the School of Nursing. The requirements for this degree may be found in the bulletin of the undergraduate colleges.

## ADMISSION WITH ADVANCED STANDING IN THE WOMAN'S COLLEGE

Students from the School of Nursing who are admitted to the Woman's College may receive credit for college courses taken prior to their
admission to the School of Nursing provided they meet the requirements listed below.

A student enrolling for the Bachelor's degree, who transfers from a junior college or from a four-year college not affiliated with the Southern Association or a similar regional association, is under all circumstances required to continue, for at least one semester in the Woman's College, the foreign language she presents for minimum graduation requirements. Note: No foreign language is required for the B.S. in Nursing Education.

Credit for courses in science offered for advanced standing by a student transferring from a junior college or from a four-year college not affiliated with the Southern Association or a similar regional association will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters work in residence. To validate provisional credits the student must earn at least an average of "C" in a normal load of work. Transfer grades of "C" or above are rated at one quality point per credit hour when validated.

The maximum amount of credit acceptable from a junior college is sixty semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and not more than six semester hours credit is allowed for extension courses. Any extension work accepted must be specifically approved by the Dean of the College.

THE CURRICULUM-BASIC PROGRAM

| Title of Course | Clock Hours | Related Clinical Experience |
| :---: | :---: | :---: |
| 1st year - 1st semester |  |  |
| Anatomy and Physiology | 64 |  |
| Physiological Chemistry | 48 |  |
| Nutrition and Cookery. | 48 |  |
| Social Psychology | 32 |  |
| Foundations of Nursing Care (Including History of Nursing and Pharmacology I) | 112 | Ward practice in nursing procedures |
| Community Health............ | 48 | 2 weeks vacation |
| 1st year - 2nd semester and summer session |  |  |
| Anatomy and Physiology. | 64 |  |
| Microbiology . . | 64 |  |
| Medical and Surgical Nursing I | 192 | Ward practice in medical and surgical nursing |
| Social Psychology | 22 | 3 weeks vacation |
| 2nd and 3rd years |  | 9 weeks operating room 6 weeks diet kitchen |
| Medical and Surgical Nursing II. | 144 | 15 weeks obstetrics and gynecology |
| Obstetrical Nursing | 48 | 13 weeks pediatrics |
| Pediatric Nursing.... | 32 | 6 weeks psychiatry |
| Psychiatric Nursing. <br> Public Health Nursing | 48 | 8 weeks public health 3 weeks out-patient |
| Social Foundations of Nursing | 48 | 16 weeks on campus (Elective classes |
| Child Growth and Development. | 32 | may be taken in Woman's College, Duke University during this period 7 weeks vacation <br> 21 weeks Medical \& Surgical Nursing |

## COURSES OF INSTRUCTION

Anatomy and Physiology.-Through the learning experiences in this course, the student gains an understanding and appreciation of the way body structure and body functions serve to maintain and promote health. These understandings and appreciations enable the student to practice and teach good hygiene effectively and to comprehend anatomical and physiological pathology intelligently.

Dr. Markee, Dr. Safyer, Miss Smith
Physiological Chemistry.-This course is designed to aid the student in understanding the relationships between chemistry and health and between chemistry and disease. The student also requires knowledge concerning the chemical basis of medical diagnosis and therapy.

Dr. Taylor
Microbiology.-From the learning experiences included in this course the student is enabled to understand and appreciate her role in the prevention of microbial disease.

Dr. Conant
Nutrition and Cookery.-This course has been planned that the student may gain specific information relative to normal nutrition. The methods of supplying foods conforming to nutritional needs of both the nurse and the patient are given for varying income levels. The actual care and preparation of foods and the planning of a daily food intake according to nutritional needs of both the nurse and the patient are given for varying income levels. The actual care and preparation of foods and the planning of a daily food intake according to nutritional standards is the content of the laboratory periods.

Miss Yearick
Social Psychology.-Through a study of the role of social and cultural patterns in their interaction with the individual personality and through an understanding of behavior development and personality adjustment, it is hoped that the student may advance toward maximum personal, social and professional maturity. By exploration of social patterns she learns something of the structure of contemporary society. Through a study of the techniques used in understanding and getting along with others, the student becomes better able to use these techniques in her own contacts with people.

Miss Jeffers; Special Lecturers
Community Health.-Discussion of the evaluation of the public health movement to its attack on present major health problems of the community, including environmental sanitation. The student gains some acquaintance with agencies and community facilities and is introduced to the use of statistics.

Miss Massey
Child Growth and Development.-Discussion of the child, his physical, mental, emotional and social growth and development. Includes observation in Child Guidance Conferences.

Dr. Hohman
Social Foundations of Nursing.-This course is designed to help the student consider the opportunities open to her, her special aptitudes and abilities. her responsibilities, the fields of work for which she presents potentially the best qualifications and how to get started in a professional career. She is helped to see the place of nursing in the social and economic world of today. Emphasis is placed on the need for cooperation between all professions if satisfactory conditions for the maintenance of health and the prevention of disease are to be realized.

Miss Wilson

Foundations of Nursing Care.-This course is designed to guide the student in the acquisition of knowledges, attitudes and skills serving as a foundation for all nursing care. Includes history of nursing, problem solving in relation to giving of medications and basic nursing procedures. Scientific principles are emphasized to clarify methods of carrying out nursing procedures. Miss Crawley, Miss Bason, Mrs. Brock, Mrs. Anderson

Medical and Surgical Nursing I.-A discussion of the prevention and treatment of medical and surgical conditions as related to the nervous, cardio vascular, respiratory and digestive systems. Emphasis is placed on measures that can be used to limit pathology so that the functioning of the patient is improved. Includes medical, nursing, pharmacological, dietary, social, economic and physiological aspects of the prevention and cure of these diseases and the rehabilitation of the patient.

Instructor to be Announced
Medical and Surgical Nursing II.-This course is the same as Medical and Surgical Nursing I except that the patients discussed are those with diseases related to the excretory, skeleto muscular, integumentary and female reproductive systems. Also included is a unit on the prevention and treatment of communicable disease. Instructor to be Announced

Obstetrical Nursing.-A discussion of the physiologist and pathologist aspects of pregnancy; labor and the puerperium and of the immediate care of the newborn.

Mrs. Rider
Pediatric Nursing.-Discussion of the prevention and treatment of diseases commonly found in infancy and childhood.

Mrs. Lavin
Psychiatric Nursing.-Discussion of the principles of psychiatric nursing and the nurses' responsibility in a positive mental health program.

Mrs. Fleming, Dr. Goldsmith
Public Health Nursing.-Discussion of the development, principles and functions of public health nursing considered as a community health service related to other community health and welfare programs. Special consideration is given to public health nursing within the framework of a rural health department.

Miss Massey

## DIVISION OF NURSING EDUCATION

## ADVANCED PROFESSIONAL PROGRAMS

A Division of Nursing Education was established in December, 1944, as an integral part of the Department of Education of Duke University. At the present time, qualified graduate nurses may work toward the degree of Bachelor of Science in Nursing Education, or toward the degree of Master of Education with a major in Nursing Education.

The primary objective of the degree program for graduate nurses is to prepare qualified individuals for teaching and supervisory positions in schools of nursing and in nursing service agencies. Facilities for instruction include the undergraduate colleges of Duke University, the School of Nursing, the Medical School and Duke Hospital.

## I. DEGREE OF BACHELOR OF SCIENCE IN NURSING EDUCATION

Admission
A student who wishes to work toward the degree of Bachelor of Science in Nursing Education must apply for admission to the Woman's College of Duke University. To be eligible for admission as a candidate for this degree she must meet the following requirements:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit. Twelve units must be in English, foreign language, history and social studies, mathematics and natural science.
Three units may be in subjects listed above or in such subjects as art, commercial subjects, household economics, or music.
Students who have satisfactorily completed one or more years of college work in an approved college or university must also fulfill the requirements listed above with respect to high school credit. must present official transcripts of all work done in other institutions, and must have honorable dismissal from each institution previously attended.
2. Graduation from an approved school of nursing which provides satisfactory preparation in medical, surgical, pediatric, and obstetric nursing, as a minimum.
3. Satisfactory scores on specified tests.
4. Satisfactory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.
Credit for 120 semester hours (exclusive of physical education) on which an average grade of at least " C " is made is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. The progran of studies leading to this degree must include:

## Outline of Program

1. Minimum general education requirements (may be satisfied at Duke
University or at any accredited college or university).

## S.H.

English 1-2 ................................................. . . 6
Natural Science ............................................ 8
History, Economics or Political Science ............ 6
Sociology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3-6
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(Literature, Art, Music, Religion, Ethics, Language)
$38-50$
2. Basic nursing programı ........................... maximum)
May be taken at the Duke University School of Nursing or
at any approved school of nursing.
The amount of credit which is granted for the nursing
school program is determined on an individual basis.
3. Courses in education and nursing education
88. Educ. Psychology: Learning and Measurement 3
118. Educ. Psychology: Psychological Development 3

84N. Social Foundations of Nursing Education ...... 3
101N. The Curriculum of the School of Nursing ..... 3
115 N.$\}$ Nursing Education-Principles and Practices .. 8
117. Community Nursing-Seminar and Field Trips
to Community Agencies ................... 3
4. Field of Concentration-15

Fifteen semester hours in one field such as chemistry, zoology, physics, psychology or sociology, or in a clinical area and related subjects is required. No freshman work may be included in these fifteen semester hours. Nurses who are interested in head nurse work or supervision in a clinical area are advised to take the following courses:
193. Ward Administration and Teaching ................ 3
195. Personnel Work in Schools of Nursing ........... 3
120. Problem in Nursing Care ............................ 2
5. Professional experience

One year of experience as a graduate nurse is required before the degree is granted.

# II. DEGREE OF MASTER OF EDUCATION WITH A MAJOR IN NURSING EDUCATION 

(Not offered in 1950-51)

## Admission

A student who wishes to work toward the degree of Master of Education with a major in Nursing Education must apply for admission to the Graduate School of Duke University. To be eligible for admission as a candidate for this degree she must meet the following requirements:
(1) Graduation from an approved college or university with an average grade of not less than "B."
(2) Satisfactory standing on the Graduate Record Examination.
(3) Satisfactory standing on a test of mental ability.
(4) Ability to write acceptable English as demonstrated on a test.
(5) Graduation from an approved school of nursing.
(6) Satisfactory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

Outline of Program
Basic Required Courses in Education: S.H.
300. Methods of Educational Research ................... 3
304. The School as an Institution ......................... 3
305. The Nature, Function, and Reorganization
of the Curriculum .................................. . . . . 3
317. The Psychological Principles of Education ........ 3

Courses in Nursing Education:
310. Organization and Administration of
Schools of Nursing ................................. . . 4
311. Problems in Personnel Administration in Nursing .. 4
312. Research Problem ........................................ . . . 4

12
Minor, intra-departmental or extra-departmental ......... 6
30
Candidates for the Master of Education degree must have had two years of experience including administration, supervision, or teaching in a school of nursing or nursing service organization when the degree is granted.

## III. TUITION, FEES, AND OTHER EXPENSES Fees Per Semester

A matriculation fee of $\$ 20.00$ is paid at the time of acceptance to Woman's College.

Tuition . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 175.00$
General Fee (Undergraduate) including health, library and incidental fees 75.00

General Fee (Graduate School) . . . . . . . . . . . . . . . . . 60.00
Laboratory Fee (amount depends upon course which is taken)

## Living Arrangements

Students may make their own arrangements to live in private homes. A limited number of students can be housed in the Graduate Nurses' Residence, 2204 Erwin Road. The cost of living in this residence is as follows:

Single room (per semester) . . . . . . . . . . . . . . . . . . . . . $\$ 87.50$
Double room (per semester) . ......................... . . . 67.50
Meals can be secured at a nominal rate at University cafeterias.

## Employment

A limited number of nurses may be employed at Duke Hospital during the time they are taking courses at Duke University. Nurses who are working full-time ( 44 hours per week) may take one course each semester. Nurses who wish to reduce hours of work per week to 36, with a corresponding reduction in salary, may take two courses each semester.

For information about employment write to the Director of Nursing Service, Duke Hospital.

## IV. PROGRAM IN PSYCHIATRIC NURSING

A twelve-month program in psychiatric nursing is offered to qualified graduate nurses. The primary objective of this program is to prepare individuals for head nurse positions in psychiatric units of hospitals, child guidance clinics, and related fields. Students who wish to qualify for supervisory or teaching positions in the psychiatric field are advised to complete the program which leads to the degree of Bachelor of Science in Nursing Education.

Facilities for clinical teaching and experience include the psychiatric in-patient unit, the out-patient department, the psychosomatic service of Duke Hospital, child guidance clinics, and the State Hospital in Raleigh, N. C.

Students have approximately 20 hours per week of carefully planned laboratory practice on clinical services, during which time they work closely with patients presenting a wide variety of emotional disturbances. They also have an opportunity to participate in staff conferences and clinics at Duke Hospital and at the State Hospital in Raleigh.

Approximately 30 semester hours of credit toward the Bachelor of

Science in Nursing Education degree may be earned during the calendar year.

A limited number of training stipends are available through the U.S. Public Health Service for those nurses who have demonstrated particular interest and aptitude in this field.

Requirements for admission are the same as for all students admitted to the program which leads to the degree of Bachelor of Science in Nursing Education.

## Outline of Program (One Year)

## Fall Semester <br> Credits

Educ. 130Ň Psychosomatic Nursing .................... . 4
Educ. 131N Psychiatric Nursing ........................ . 4
Soc. 101 General Sociology ......................... . . 5
Educ. $84 N$ Social Foundations of Nursing Education 3
16
Winter Semester
Educ. 132N Psychiatric Nursing ....................... 4
Educ. 120N Problem in Nursing Care ................ 2
Educ. 193N Ward Administration and Teaching ...... 3
Psych. 116 Psychology of Adjustment ................ . 3
12
Summer
Educ. 133N Seminar in Psychiatric Nursing ......... 3

## V. CLINICAL PROGRAM IN OPERATING ROOM NURSING

A program in operating room nursing of nine months in length is offered to qualified graduate nurses who are interested in preparing for head nurse positions in an operating room.

## Admission

An individual who is interested in the program in operating room nursing must apply for admission to the Woman's College of Duke Unirersity as a special student. To be admitted as a special student the following records are required:

1. Transcript of high school or of college record.
2. Transcript of nursing school record.
3. Satisfactory rating from a nursing service administrator or supervisor with whom the applicant has had recent contact.

In addition to the above requirements an applicant must have had a minimum of six months' experience as an operating room nurse.

## Outline of Program

*Courses in Nursing Education and Related Subjects

# Credits <br> S4N. Social Foundations of Nursing Education ................ 3 <br> 120. Problem in Nursing Care .................................. . . 2 <br> 193. Ward Administration and Teaching ...................... 3 <br> 195. Personnel Work in School of Nursing ................... 3 <br> Elective .............................................................. 3 

14
Classes and Related Experience in Operating Room Nursing
The course in operating room nursing includes 60 hours of organized class work during the period of nine months and an average of 36 hours each week on duty, of which 18 hours is supervised experience. The class work includes a discussion of the facts and principles of chemistry, bacteriology, anatomy and physiology, underlying preparation for and assistance with surgical operations, both general and special. The history of anesthesia is presented, as well as present day trends and developments in the field.

In the related field work the nurse becomes acquainted with the functions of various departments of the hospital and their relationship to the operating room. She has an opportunity to prepare for and assist with various surgical operations including general surgery, chest surgery, neuro-surgery, orthopaedic surgery, urological surgery, plastic surgery and eye, ear, nose and throat surgery. She is also given an opportunity to assist with administrative and supervisory functions in the operating room, and with planning and conducting a teaching program for students and others.

## Fees

Each student pays the regular University fees for courses in Nursing Education and related subjects. The fee per credit hour is $\$ 12.00$ (194950 ). In addition a matriculation fee of $\$ 5.00$ is paid each semester.

## Living Arrangements

Students who are taking the course in operating room nursing receive full maintenance in return for service to the hospital.

## Health Care

Each student is required to carry hospitalization insurance to cover the cost of hospitalization during illness.

A sick leave of seven days is given during the nine months period.

## Dates of Admission

Students are admitted to the program in operating room nursing at the beginning of each semester.

[^19]
## Certificate

At the completion of the nine months program in operating room nursing the student is granted a certificate.

## Information

For further information about any program write to Director of the Division of Nursing Education, Duke Hospital, Durham, North Carolina. Application for admission to the Woman's College should be made to the Committee on Admissions, College Station, Durham, North Carolina.

## DESCRIPTION OF COURSES

84N. Social Foundations of Nursing Education.-A survey of the major social and economic trends which have influenced developments in nursing in the past, and which determine its present and future progress. The purpose of the course is to give the nurse a better understanding of the place of nursing in present day society, and the responsibility of the individual nurse toward that society. 3 s.h.

Miss Ingles
101N. The Curriculum of the School of Nursing.-A discussion of the philosophical, psychological, and sociological principles which influence the nursing school curriculum, and the problems which are involved in determining the content and organization of that curriculum. 3 s.h.

Miss Smith
115-116N. Nursing Education, Principles and Practice.-A course which is designed to help prospective teachers in schools of nursing to understand students and how they learn, to plan a program of instruction which will make effective learning possible, and to evaluate the outcomes of instruction. Ninety hours of observation of teaching and thirty hours of supervised teaching in the Duke University School of Nursing are required. 8 s.h.

Miss Smith
117. Community Nursing.-The purpose of this course is to help prospective teachers, supervisors, and head nurses to see how they can utilize outpatient departments, community agencies, and other facilities in integrating social and health aspects into the various areas of the nursing school curriculum. 3 s.h.

Miss Massey
120. Problem in Nursing Care.-Each student works on an individuai nursing problem which is designed either to improve the nursing care of patients or the teaching program of the school of nursing. 2 s.h. Miss Ingles
124. Teaching of Nursing Arts.-In this course an effort is made to help teachers in schools of nursing to integrate the facts and principles of the social, biological, and medical sciences with the teaching of nursing arts. Though major emphasis is placed upon the problems which are involved in planning and teaching the first course in nursing arts, the concept of the nursing arts as an integral part of each clinical area is stressed. 3 s.h. Miss Crawley
193. Ward Administration and Teaching.-This course is designed to help head nurses better to understand their functions in planning and managing a program on a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel, and a more adequate teaching program for students and others. 3 s.h. Miss Ingles
195. Personnel Work in Schools of Nursing.-The primary purpose of this course is to help head nurses and supervisors to develop greater understanding of the principles of human behavior, and greater ability to apply those principles in working with patients and others on hospital divisions, and in establishing cooperative relationships with other departments of the hospital. 3 s.h.

Miss Smith

130N. Psychosomatic Nursing.-A study of the inter-relationship of mind and body in health as well as in illness. The student learns to utilize techniques of observation and interview, both in an experimental and in a therapeutic way. This course helps her to gain an understanding of emotional reactions and of inter-personal relationships which are useful to her in many areas of professional life, as well as in everyday activities. Lectures, clinics, conferences, discussions and experience with patients. 4 s.h.

Miss Moser and Staff of the Department of Psychiatry
131-132N. Psychiatry and Psychiatric Nursing.-An advanced study, from the dynamic point of view, with special emphasis upon personality development and upon the preventive and therapeutic aspects of psychiatry and psychiatric nursing. Through patient-centered teaching the student becomes acquainted with a variety of mental and emotional disorders. She learns to plan and carry out broad nursing functions based upon a comprehension of why people behave as they do, and of how more healthy patterns may be developed. In the second semester, the management of practical situations of increasing complexity is stressed. Lectures, clinics, conferences, discussions and experience with patients. 4 s.h.

Miss Moser and Staff of the Department of Psychiatry
133N. Seminar in Psychiatric Nursing.-This course offers an opportunity for special study of certain areas of psychiatry, psychiatric nursing and related fields, such as the behavior problems of children, projective tests, group therapy, mental hygiene clinics, and the like. These areas are chosen in terms of the students' needs and interests. Lectures, group discussions, field trips and experience with patients. 3 s.h.

Miss Moser and Staff of the Department of Psychiatry

# PUBLIC HEALTH NURSING 

School of Public Health<br>University of North Carolina<br>Chapel Hill, N. C.

## PUBLIC HEALTH NURSING

The program of study in Public Health Nursing is designed to prepare registered professional nurses to carry on the functions of public health nursing in local health departments, visiting nurse associations, or joint health agencies.

Curricula leading to a certificate or baccalaureate degree in Public Health Nursing are offered.

## Requirements for Admission

General:

1. Ability to meet the regular entrance requirements of the University.
2. Graduation from an approved school of nursing offering a satisfactory theoretical and clinical experience.
3. Acquisition of the status of a registered nurse in any state.

## Specific:

1. Candidates for the Certificate in Public Health Nursing:
(a) General requirements above.
2. Candidates for the degree of Bachelor of Science in Public Health Nursing :
(a) General requirements.
(b) Two years of prescribed academic work in an accredited university or college.
(c) Approval of the Committee on Admissions to the curriculum for the Bachelor of Science in Public Health Nursing.
3. Candidates for the Master of Public Health degree:

Graduation from an approved school of nursing and graduation with a bachelor's degree from an accredited college or university. The undergraduate program must have included at least eight courses in the natural sciences, and it is desirable that the student shall have had work in social science and education.

## Plan of Instruction

The calendar year's curriculum in Public Health Nursing is required of all majors in this field. While there is a prescribed curriculum of study, a program will be arranged on an individual basis with consideration for the educational and experiential background of the student. The program is so arranged that students are admitted in the Fall Quarter and are expected to remain for at least three consecutive quarters. With the approval of the Department, public health nurses with experience
may be admitted in the summer provided they plan to remain for a minimum of three consecutive quarters. Field work is an essential part of the program and is required for either the degree or the certificate. Exceptions may be made where a quarter of supervised field experience has been previously taken in an approved University program, or on approval of the curriculum committee.

Curriculum in Public Health Nursing
Requircd Courses:
Credit Hours
P.H. 101 Epidemiology ............................................ 3
P.H. 111 Public Health Administration .......................... 3
P.H. 114 Mental Hygiene ........................................... 2
P.H. 131 Parasitism and Human Disease ...................... $31 / 2$
P.H. 141 Public Health Nutrition ................................ 3
P.H. 190 Principles and Practices of Public Health Nursing 5
P.H. 191 Public Health Nursing Organization and

Administration ...................................... 5
P.H. 192 Group Work: Its Interpretive Factors ................ 3
P.H. 193 Applied Public Health Nursing Field Practice ..... 15

P.H. 196 Special Fields in Public Health Nursing ............. 5

Soc. 51 An Introduction to Sociology .......................... 5
P.H. 198 Growth and Development of the Child ................ 3
P.H. 118 Health and Sickness in Modern Society ............ 3

For experienced students or graduates of university schools of nursing who have had an acceptable course in any of the above, an elective may be substituted.

## Bachelor of Science in Public Health Nursing

Because of the increasing demands of public health departments for nurses with a baccalaureate degree, it is desirable for students to enroll in the curriculum leading to the degree of Bachelor of Science in Public Health Nursing.

Candidates for this degree must fulfill the following requirements:

1. Satisfactory completion of 90 quarter hours ( 60 semester hours) in an accredited college or university. The amount of credit not exceeding 90 quarter hours extended for work in other colleges will be determined by the Committee on Admissions.
(a) Required:

24 quarter hours in the natural sciences, selected from zoology, botany, chemistry, physics, psychology.
20 quarter hours in English.
10 quarter hours in the social sciences, selected from sociology. upper division psychology, history.
(b) Electio'es:

The departmental adviser will assist the student in the selection of the remaining courses ( 36 quarter hours) with reference to her individual needs.
2. Graduation from an approved school of nursing, with credit to be determined by the Committee on Admissions.
3. Satisfactory completion of the curriculum in Public Health Nursing in the School of Public Health at the University of North Carolina.

## Tuition and Fees

The tuition is $\$ 100.00$ a quarter. This includes the following University charges for each quarter :

Matriculation ....................................................... . $\$ 21.00$
Student Activities ................................................... 3.85
Special Library Fee .................................................. . . . 3.00
Woman's Association (women students only) ............. 1.00
The laboratory fee for the field quarter in Public Health Education and Public Health Nursing is $\$ 300.00$ in addition to the $\$ 100.00$ tuition.

## MASTER OF PUBLIC HEALTH

The course leading to the degree of Master of Science in Public Health is designed to provide a broad training in the basic health sciences and is intended to prepare students for professional careers in several vital fields of public health.

Requirements for Admission: For admission to the program of study leading to this degree students in nursing must satisfy with an acceptable record the following requirement:

1. Graduation from an approved school of nursing and graduation with a bachelor's degree from an accredited college or university. The undergraduate program must have included at least eight courses in the natural sciences, and it is desirable that the student shall have had work in social science and education.
Requirements for the Degree: The following are the principal requirements for the degree:
2. A period of residence of at least one academic year at the University. For nurses and health educators an additional period of three months devoted to field training under the supervision of the University is required. For other personnel the field training is at present optional.
3. The completion with high grades of an approved program of courses which includes public health administration, epidemiology, sanitation, bacteriology, and statistics. The course program shall involve credits of not less than 45 quarter-hours nor more than 60 quarter-hours.
4. A final written comprehensive examination in the field of the student's major interest, and a comprehensive oral examination on the entire program of study.
Candidates for this degree must complete all the requirements within six years from the time of their first matriculation in the program. Students completing their program over a period of years will be required to satisfy all requirements for the degree which are in effect in the final year of their work.

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## BULLETIN OF

## DUKE UNIVERSITY

$\omega$


## The School of Medicine

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N, C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Law, apply to The Dean of the School of Law, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

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## BULLETIN

## OF

# Duke University 

## THE SCHOOL OF MEDICINE



1950

ANNOUNCEMENTS FOR 1950-1951

## FOREWORD

This bulletin is issued for prospective medical students. Admissions into any class are made only on the understanding that every decision of the Executive Committee shall apply to all students, even though it is made subsequently to their enrollment in the School. At frequent intervals the Executive Committee reviews the records of all students, and those whose progress has been unsatisfactory may be required to leave the School. Only those will be advanced who, in the opinion of the executive COMMITtEE, GIVE PROMISE of being a credit to themselves and to the SCHOOL. The next first-year class will be admitted October 2, 1950. For admission requirements and applications, see page 9.

## 1950

| JANUARY |  |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
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| 29 | 30 | 31 |  |  |  |  |  |  | 25 | 26 | 27 | 28 |  | $\begin{aligned} & 23 \\ & 30 \end{aligned}$ |  |  |  |  |  | 29 | 29 | 30 | 31 |  |  |  |  |
| FEBRUARY |  |  |  |  |  |  | MAY |  |  |  |  |  |  | AUGUST |  |  |  |  |  |  | NOVEMBER |  |  |  |  |  |  |
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## 1951

| JANUARY |  |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
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| FEBRUARY |  |  |  |  |  |  | MAY |  |  |  |  |  |  | AUGUST |  |  |  |  |  |  | NOVEMBER |  |  |  |  |  |  |
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|  | 12 | 13 | 14 | 15 | 16 | 17 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|  | 19 | 20 | 21 | 22 | 23 | 24 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 16 | 17 | 18 | 19 |  | 21 | 22 |
|  | 26 |  |  | 29 |  | 31 | 24 |  |  | 27 | 28 | 29 | 30 | 23 | 24 |  |  |  | 28 | 29 | 23 | 24 |  | 26 | 27 | 28 | 29 |

## SCHOOL OF MEDICINE CALENDAR 1950-1951

2450
Jan.
3 Tuesday-Registration of students, and Winter Quarter begins.
March 18* Saturday-Winter Quarter ends.
March 27 Monday-Registration of students, and Spring Quarter begins.
April 10 Easter Monday : a holiday.
June 5 Monday-Commencement Exercises.
June 10 Saturday-Spring Quarter ends.
July 4 Tuesday-Independence Day: a holiday.
July 5 W'ednesday-Registration of students, and Summer Quarter begins.
Sept. 4 Monday-Labor Day: a holiday.
Sept. 16 Saturday-Summer Quarter ends.
Oct. 2 Monday-Registration of students, and Autumn Quarter begins.
Nov. 30 Thursday-Thanksgiving: a holiday.
Dec. 16 Saturday-Autumn Quarter ends.

1951
Jan. 2 Tuesday-Registration of students, and Winter Quarter begins.
March $17 \dagger$ Saturday-Winter Quarter ends.
March 26 Easter Monday: a holiday.
March 27 Tuesday-Registration of students, and Spring Quarter begins.
June $\quad 4$ Monday-Commencement Exercises.
June 9 Saturday-Spring Quarter ends.
July 2 Monday-Registration of students, and Summer Quarter begins.
July 4 Wednesday-Independence Day: a holiday.
Sept. 3 Monday-Labor Day: a holiday.
Sept. 15 Saturday-Summer Quarter ends.
Oct. 1 Monday-Registration of students, and Autumn Quarter begins.
Nov. 29 Thursday-Thanksgiving: a holiday.
Dec. 15 Saturday-Autumn Quarter ends.

[^20]
## GENERAL STATEMENT

Duke University School of Medicine and Duke Hospital were established in 1930, through the munificent gift of the late James B. Duke. The School of Medicine has been planned to insure the greatest correlation between the various departments. These facilities are available also for students who are studying for degrees other than that of Doctor of Medicine. The School of Medicine has been approved as Class A by the American Medical Association and is also a member of the Association of the American Medical Colleges. On October 3, 1949, two hundred and eighty-three students were enrolled.

## AIMS OF THE SCHOOL

Duke University School of Medicine, from its beginning in 1930, has maintained as its major objectives: (a) the cultivation and teaching of medicine on a strictly scientific basis; (b) the correlation of medical research with medical teaching at all levels of its teaching, and (c) the continuous search for and experimentation with new or improved methods of teaching scientific medicine. In order to attain these objectives, the School has been organized, its physical plant planned, and its administrative structure constituted so that there exists the closest possible academic and physical relationship between undergraduate and graduate work in the University and the School of Medicine, and also between the basic medical sciences and the clinical sciences within the School and its integrated teaching Hospital. The professional staff of the School is composed of two general categories, those with permanent appointment and unlimited tenure, and those with temporary appointment. The latter, the much larger group, is maintained on a highly fluid basis, which makes possible a high degree of selectivity in appointment for academic training and scientific research. The smaller group of permanent appointees has in every individual a background characterized by academic and scientific attainment. The professional, academic, and scientific enviromment created by the staff is thus such as to engender scientific inquiry and to encourage diligent pursuit of the medical sciences in all their relationships. The staff at all levels devotes its entire professional time to the activities of the School or Hospital.

## FACILITIES OF THE HOSPITAL

Duke Hospital, an integral part of Duke University School of Medicine, has every modern convenience for the diagnosis, proper care, welfare and comfort of the patients, both private and charity, white and colored, whether they come from Durham or from a distance. It has 579 beds, including 30 bassinets for newborn infants, and 20 premature nursery bassinets. Medicine, including dermatology and neurology, has 77 ward beds; surgery, including urology, otolaryngology, ophthalmology, and orthopaedics, 135 ward beds; obstetrics, including gynecology, 59, and 50 bassinets; ncuropsychiatry', 9; and pediatrics, 40. There are 209 private
rooms and semiprivate cubicles, 7 air-conditioned operating rooms, 4 obstetric delivery rooms, and ward and student laboratories. Offices and examining rooms for members of the Medical Faculty are located in the Hospital. The Hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association, and the American College of Surgeons.

Duke Hospital and its Out-Patient Clinic were opened for patients on July 21, 1930. Through December 31, 1949, 377,865 individuals have been examined, diagnosed, and treated. The average daily census of hospital patients during the past year was $454 ; 104,408$ visits were made to the Out-Patient Clinic during the same period. Twenty-one per cent of the patients come from within a radius of twenty miles, the remaining 79 per cent come from the other 99 counties in North Carolina and from 36 other states and 3 foreign countries. The average distance traveled by the patients is more than seventy miles.

The Private Diagnostic Clinic was organized to co-ordinate the diagnostic studies, and to give better care to the complicated problems arising in the examinations of private patients. The Clinical Staff of Duke Hospital and School of Medicine forms the professional staff of this clinic, while the financial side is handled by a business manager. The offices and examining rooms are in Duke Hospital, and all the laboratory and diagnostic facilities of the Hospital and School of Medicine are utilized by the Clinic.

## LIBRARY

Judith Farrar, A.B., B.S., Librarian.
Mildred Perkins Farrar, A.B., Assistant Librarian.
"To study the phenomena of disease without books, is to sail an uncharted sea, while to study books without patients is not to go to sea at all."-Sir William OsLer.

In addition to the General Library of Duke University and the departmental libraries of biology, chemistry, physics, etc., which have 960,859 volumes available for medical students, Duke Hospital Library contains 49,000 volumes of American and foreign medical literature and subscribes to 570 current American and foreign medical and other scientific journals. These books and journals are available daily from 8:30 A.M. to $10: 30$ P.M. for the students, nurses, staff, and medical profession.

## CURRICULUM OF THE SCHOOL OF MEDICINE

The curriculum, shown below, consists of two semesters in the first year and three quarters each in the second, junior and senior years. There is no summer quarter between the first and second year, but in the two clinical years the subjects of the autumn, winter and spring terms are repeated in the summer quarter. This accelerated schedule is optional,* and students may take the two semesters of their first year, and three quarters in each of their subsequent years, and receive their certificates in four calendar years, or, if they receive permission from the Curriculum Committee, they may at the end of their second year take the clinical

[^21]quarters given during the summers and receive their certificates in three and one quarter calendar years.

Every effort is made to emphasize the close relationship of preclinical and clinical instruction. Members of the clinical staff assist in the teaching of preclinical subjects and demonstrate to the students of the first two years patients whose conditions illustrate the subjects being taught. Thus. from the student's first days, he is impressed with the interdependence of all branches of the medical science. In the junior and senior years, preclinical instructors assist the clinical staff in presenting the underlying basis of disease.

The free time in this curriculum may be spent in elective work or anything else the student wishes to do. No credits are given, but opportunity is provided for each student on his own initiative to obtain additional training which he may feel to be necessary or desirable. Elective courses have been organized for small groups, or the time may be utilized in independent work (including research) in any department, clinical or preclinical. Arrangements for taking such courses or doing other work are to be made through the Curriculum Committee.

It is hoped that many students will migrate to other medical schools for one or more quarters. Those who wish to do so, or to substitute a schedule different from that listed below, must have their programs approved in advance by the Curriculum Committee, and afterwards must present evidence that they have completed work comparable to that of the curriculum during the quarters in which they were away or were following an altered schedule.

## OPTIONAL ACCELERATED SCHEDULE*

(The hours for these courses will be posted on the bulletin board.)

## FIRST YEAR

First Semester:

October 3, 1949, to February 8, 1950.

Anatomy (including histology and neuroanatomy)638
Second Semester:February 15 to June 10, 1950.
Physiology ..... 341
Biochemistry ..... 279
Psychobiology ..... 12
Free time ..... 17
SECOND YEAR
Autumn Quarter (4th) :October 3 to December 17, 1949.
Pharmacology ..... 143
Bacteriology ..... 176
Parasitology ..... 44
Public Health and Biostatistics ..... 66
Winter Quarter (5th):
January 3 to March 18, 1950.
Pathology
Pathology ..... 231 ..... 231
Public Health ..... 66
Introduction to Medicine and Surgery ..... 132

* This optional schedule may be made compulsory, and a thirteenth elective quarter may be added to the senior year.
Spring Quarter (6th):
March 27 to June 10, 1950.
Pathology ..... 22.3
Introduction to Medicine ..... 111
Clinical Microscopy ..... 95
JUNIOR YEAR
Summer Quarter (7th) :*
July 5 to September 16, 1950 ..... 429
Autumn Quarter (8th) :* October 2 to December 16, 1950.
Surgery (Junior) ..... 429
Winter Quarter (9th) :* January 2 to March 17, 1951.
Obstetrics and Gynecology (Junior) ..... 352
Neuropsychiatry ..... 77
SENIOR YEAR
Spring Quarter (10th):* March 27 to June 9, 1951.
Medicine (Senior) ..... 390
Free Time ..... 39
Summer Quarter (11th):*
July 2 to September 15, 1951
Surgery (Senior) including urology and orthopaedics ..... 390
Electives ..... 39
Autumn Quarter (12th) :*
October 1 to December 15, 1951.
Pediatrics ..... 297
Surgery ..... 41
Neuropsychiatry ..... 41
Preventive Medicine ..... 11
Electives ..... 39
SUMMAARY
Total number of hours in curriculum ..... 5,148


## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICINE

After the completion of six quarters in the Duke University School of Medicine. Duke University, on the recommendation of the Executive Committee, grants the degree of Bachelor of Science in Medicine to medical students who have completed creditable investigative work, prepared an acceptable report of the investigation, and passed an examination upon the subject of the investigation before an advisory committee. Students who elect to undertake work toward this degree must obtain written permission from the Executive Committee after approval of their program by the head of the department in which the work is to be done. No credit toward this degree is given for additional college work. All students in good standing are encouraged to undertake such investigative

[^22]work as they may elect with the approval of the head of the department in which they wish to work. All requirements must be completed three months prior to the date on which the B.S. degree is requested.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF MEDICINE

The degree of Doctor of Medicine is conferred on those who have completed, to the satisfaction of the Executive Committee, the twelve quarters of 11-12 weeks each of the curriculum of the School of Medicine, the preclinical and clinical examinations, and have signed an agreement that they will spend at least two years of the succeeding three years in hospital or laboratory work acceptable to the Executive Committee. As a guarantee of this pledge the diploma is deposited in the Treasurer's Office until after the completion of this training. Failure to fulfill this agreement constitutes a waiver of any claim to possession of the diploma and the degree of Doctor of Medicine.

## APPLICATION FOR ADMISSION

Application forms may be obtained by writing to the Committee on Admission, Duke University School of Medicine, Durham, N. C. A check or post office money order for $\$ 5$, payable to Duke University School of Medicine, must accompany each request for an application. This is not refundable. If further information is required after the Committee has studied the completed application, a personal interview with the Committee on Admission or a Regional Representative is arranged for the applicant. The candidate then is notified as soon as possible whether he has been accepted or declined; if accepted, he must send a deposit of $\$ 50$ within two weeks to insure enrollment. This money is applied toward the tuition. The next first-year class will be admitted October 2, 1950. Applications should be submitted by December 1st, of the preceding year. Due to the large number of applicants to all medical schools, candidates are advised to apply to at least four schools. The number of students in each class is limited to 76 , but only those students will be accepted who give promise of being a credit to the School and the medical profession. Women are received on the same terms as men. In the event of vacancies, students from other medical schools may be considered for admission to any quarter for which their previous training has fitted them. Each application for advanced standing will be considered upon its own merits.

## REQUIREMENTS FOR ADMISSION

-I request that great care and discrimination be erercised in admitting as students only those whose previous record shows a character, dctermination and application evincing a tcholesome and real ambition for life."-JAMES B. DUKE.

Intelligence and character are the essential qualifications for admission.
The minimum requirements for admission to this School include approved college credits of not less than ninety semester hours, which shall include adequate preparation in English, mathematics, physics, biology, and chemistry. This preparation should be obtained in college courses of one-year duration, except in English and chemistry. In those subjects.
two years are recommended. The second year in English should be chiefly composition and theme writing. The first year of chemistry should be general (inorganic), and the second, analytic and organic chemistry.

The premedical students should be aware of the importance of a wellrounded general education as a preparation for the study of medicine and not limit himself to scientific courses. He would be better advised to secure a knowledge of the principles and a thorough appreciation of the interrelations of the basic sciences than to accumulate credits in many courses. He should learn how to work independently, to observe critically, and to analyze, rather than simply store, the information presented. His choice of studies, beyond those required for admission, should be governed by his own chief interests and by the intellectual stimulus to be derived from the work. His major interest may be in any field, scientific or otherwise, and should provide an opportunity for the demonstration of his real ability. In general, he should avoid courses in subjects which are included in the medical curriculum.

The selection of students is based upon the quality rather than the quantity of preparation and upon demonstrated evidence of personal attributes of intelligence, character, and general fitness for the study and practice of medicine. In considering an applicant many sources of information may be consulted including (1) his curricular and extracurricular college record, (2) carefully prepared, confidential appraisals by teachers who know him personally, (3) his percentile rating on the Medical College Admission Test,* and (4) the results of an interview with members of the Admission Committee or one of its Regional Representatives.

# REGIONAL REPRESENTATIVES OF THE COMMITTEE ON ADMISSION 

| Birmingham, Alabama | M. Y. Dabney |
| :---: | :---: |
| Birmingham, Alabama | Raymond C. Ramage |
| Los Angeles, Californi | Jeremiah W. Kerner |
| Pasadena, California | Robert H. Pudenz |
| San Francisco, California | Emile F. Holman |
| San Francisco, California | Charles H. Danforth |
| Montreal, Canada | Wilder Penfield |
| Denver, Colorado. | F. Vernon Altvater |
| New Haven, Connecticut | Allen K. Poole |
| Jacksonville, Florida. | Edward Jelks |
| Lakeland, Florida. | Charles Larsen, Jr. |
| Atlanta, Georgia. | James E. Paullin |
| Atlanta, Georgia. | E. B. Dunlap, Jr. |
| Savannah, Georgia | Victor H. Bassett |
| Chicago, Illinois. | George H. Gardner |
| Iowa City, Iowa. | Arthur L. Benton |
| Iowa City, Iowa. | Philip C. Jeans |
| Wichita, Kansas | Thomas Jager |
| Louisville, Kentucky | Malcolm D. Thompson |
| Louisville, Kentucky | S. I. Kornhauser |
| New Orleans, Louisiana | Philip H. Jones, Jr. |
| Baltimore, Maryland. | John T. King, Jr. |
| Baltimore, Maryland | George W. Corner |

[^23] information is not available locally, it may be obtained from the Educational Testing Service, P.O. Box 592, Princeton, N. J.

| Boston, | Iarsiiall N. Fulton |
| :---: | :---: |
| Boston, Massachusetts | James H. Currens |
| Detroit, Michigan. | Roy D. McClure |
| Rochester, Minnesot | W. H. Hollinshead |
| Kansas City, Missouri | Ralph H. Major |
| St. Louis, Missouri. | Doris Surles Woolsey |
| Butte, Montana | Caroline McGill |
| New York, New York | Lawrence S. Kubie |
| New York, New Yor | Bertram J. Sanger |
| Rochester, New York | William S. McCann |
| Davidson, North Carolina | John W. MacConnell |
| Cleveland, Ohio | B. S. Kline |
| Columbus, Ohio | Charles A. Doan |
| Dayton, Ohio | R. L. Johnston |
| Toledo, Ohio | John L. Stifel |
| Oklahoma City, Oklahoma. | William M. Taylor |
| Tulsa, Oklahoma | James W. Kelly |
| Portland, Oregon | Karl H. Martzloff |
| Johnstown, Pennsylvania | IV. Frederic Mayer |
| Palmerton, Pennsylvania | R. P. Batchelor |
| Pittsburgh, Pennsylvania | Davenport Hooker |
| Scranton, Pennsylvania | George A. Clark |
| Charleston, South Carolina | Edward F. Parker, Jr. |
| Charleston, South Carolina. | I. Waring |
| Columbia, South Carolina. | William Weston |
| Columbia, South Carolina. | James H. Gibbes |
| Chattanooga, Tennessee. | Richard Van Fletcher |
| Memphis, Tennessee. | Raphael E. Semmes |
| Nashville, Tennessee | Sam L. Clark |
| Sewance, Tennessee | Henry T. Kirby-Smith |
| Dallas, Texas. | A. James Gill |
| Galveston, Texas | A. E. Hanson |
| San Antonio, Texa | P. I. Nixon |
| Salt Lake City, Utah | Alfred J. Ridges |
| Charlottesville, Virginia | Henry B. Mulholland |
| Richmond, Va.. | I. A. Bigger |
| Seattle, Washington. | R. D. Forbes |
| Huntington, West Virgin | R. M. Wylie |
| Madison, Wisconsin. | Walter E. Sullivan |
| Laramie, Wyoming. | William R. Nesbitt |

## FEES AND EXPENSES

All fees for each quarter are due and payable at the beginning of each quarter, and no student will be admitted to classes until these fees have been paid at the University Treasurer's Office. A fine of $\$ 5.00$ is charged for late registration. No credit will be given for any quarter in which the tuition of $\$ 250$ has not been paid at the Treasurer's Office, whether the work has been done here or elsewhere, except that students who have been permitted by the Curriculum Committee to spend a quarter at another medical school or hospital may subtract the amount of tuition paid at this other medical school or hospital from the $\$ 250$ due here for that quarter.

It is not advisable for a student to attempt outside work to defray his expenses ; the results usually are disastrous to his health and academic standing.

## Fees and Expenses

Tuition, per quarter .................................................... . $\$ 250$
General Fee, per quarter, including Health, Commencement, and Diploma Fees7.50
Athletic Fee, admitting student to all athletic contests held on the University campus, during the quarter (optional) ..... 5.00
Room-rent, per quarter* (estimated) ..... 58.50
Board, per quarter (estimated) ..... 120 to 130
Laundry, per quarter (estimated) ..... 10 to ..... 20
Books, per quarter (estimated) ..... 25 to ..... 50National Board of Medical Examiners, Fees $\dagger \$ 20$ (Part I), \$15(Part II)

Microscope, ophthalmoscope, otoscope, and other equipment, which are required of each student and which must conform to rigid standards, may be obtained on a rental basis from the University, per quarter 40 to 60


## ANGIER B. DUKE MEMORIAL AND OTHER LOAN FUNDS

The Angier B. Duke Memorial, Incorporated, administers through an advisory committee of the officers of the University a loan fund for students. In addition, the loan fund of the W. K. Kellogg Foundation is available for students who are not financially able to meet their expenses. Medical students, after their third quarter, may apply for loans from these sources. No scholarships are awarded in the School of Medicine. The loan funds are administered in accordance with the following regulations:

1. No loan will be made to a student who violates any of the regulations of the University or who is not doing outstanding classwork.
2. Loans will be made only to students who are taking full courses

[^24]of study that lead to a degree, and all loans must be arranged not later than one week after the beginning of a quarter.
3. Every applicant for a loan must present with the application such security as the President of the University may approve, and no money will be advanced before a note with approved security is in the hands of the Treasurer of the University.

## MEDICAL CARE

Elbert L. Persons, A.B., M.D., Physician in Charge.
With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated medical students of the University who have paid the quarterly General Fee. This service is under the direction of the Physician in Charge with the co-operation of the Staff of Duke Hospital. It includes hospitalization (limited to thirty days), medical and surgical care, drugs, dressings, x-ray studies, and ward but not special nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes and treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernia, elective surgery, chronic skin conditions, endocrine disturbances, etc., or accidents or illnesses occurring during vacations or while off the campus, are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the patient.

## STUDENT GOVERNMENT

The members of the student body elect an Honor Council, in which each class is represented. It is the duty of the Honor Council to hear all cases involving breaches of conduct on the part of nembers of the student body. All new students entering the School are required to comply with this system of government.

## MEDICAL MILITARY SCIENCE AND TACTICS

The course consists of instruction in military medicine and military science and tactics. The student receives compensation during the last two years and while at a required summer encampment. Those completing the program will be offered reserve commissions in the Army Medical Corps or the Air Force Medical Corps and will be given priority in the selection of interns for military hospitals. Details of the program, eligibility, compensation, etc., may be obtained by addressing the PMS\&T. Duke University School of Medicine.

## FREDERIC M. HANES FELLOWSHIPS

Starting July 1, 1947, any Duke medical student after his first year is eligible for a leave of absence and a Fellowship of $\$ 125$ per month for full-time research work at Duke with special emphasis in a preclinical subject. These Fellowships will be granted on the recommendation of the Executive Committee, for a period of six months, but may be renewed. Information may be obtained from Dr. D. T. Smith.

## AWARDS TO MEDICAL STUDENTS AND INTERNS

(Additional information may be obtained from the Dean's Office.)
BORDEN UNDERGRADUATE RESEARCH AWARD IN MEDICINE
An award of $\$ 500$ may be given to the Duke Senior who, in the opinion of the Executive Committee, has performed the best research work during his or her entire medical course, including that done during the preclinical years, and theses for the B.S. degree in Medicine. Applicants should submit their papers, articles or reprints to the Dean at least three months prior to expected date of graduation.

## BAGBY AWARD IN PEDIATRICS

The best Duke Pediatric Intern is eligible for a subscription to the American Journal of the Diseases of Children.

## MOSBY AWARDS

One-year subscriptions to the Journal of Pediatrics, American Journal of Obstetrics and Gynecology, the American Heart Journal, Surgery, American Journal of Syphilis, Gonorrhea, and Veneral Diseases, Journal of Allergy, Journal of Thoracic Surgery, and Journal of Laboratory and Clinical Medicine may be awarded to the best seniors in pediatrics, obstetrics, medicine, surgery, urology, allergy, thoracic surgery and clinical microscopy, respectively.

# DEPARTMENTS OF INSTRUCTION 

## Anatomy

Joseph Eldridge Markee, B.S., Ph.D., Professor of Anatomy and Chairman of the Department.
B.S. and Ph.D., Chicago, 1925 and 1929; Douglas Smith Fellow in Anat., 1929; Instr. in Anat., Chicago, 1929; Research Fell., Gen. Ed. Bd., Carnegie Lab. of Embry., Balto., 1935-1936; Visiting Prof. of Anat., Ưniv. of Tenn., 1942; Instr., Ass't. Prof., Assoc., Prof. and Prof. of Anat., Stanford, 1929-1943; 1943-
Duncan Charteris Hetherington, A.B., M.A., Ph.D., M.D., Professor of Anatomy.
A.B., Colorado Coll., 1919; M.A. and Ph.D., Illinois, 1920 and 1922; M.D., Johns Hopkins, 1926; Instr. in Anat., Vanderbilt Med. Sch., 1926-1930; Associate Prof. of Anat., Duke, 1930-1945; 1930-

John Wendell Everett, A.B., Ph.D., Professor of Anatomy.
A.B., Olivet, 1928; Ph.D., Yale, 1932; Instr. in Biol., Goucher, 1930-1931; Ass :. Prof., of Arat., Duke, 1932-1946; 1932-
Talmage Lee Peele, A.B., M.D., Associate Professor of Anatomy and Associate in Medicine.
A.B. and M.D., Duke, 1929 and 1934; Ass't. in Anat., Duke Med. Sch., 1931-1934; Int. and Ass't. Res. in Med., Duke Hosp., 1934-1936; Int. and Res. in Neurol., Bellevue Hosp., New York City, 1936-1937; Fellow in Anat., Johns Hopkins Med. Sch., 1937. 1938;' Instr. in Anat., Rochester Med. Sch., 1938-1939; Visiting Ass't. Prof. Neuroi., Instit. Neurol., Northwestern Univ. Med. Sch., 1945; 1939-
Charles Henry Sawyer, A.B., Ph.D., Professor of Anatomy. A.B., Middlebury, 1937; Ph.D., Yale, 1941; Ass't. in Biol., Middlebury, 1936-1937; Ass't. in Zool., Yale, 1938-1941; Instr. in Anat., Stanford, 1941-1943; Visiting Ass't. Prof. of Zool., Yale, 1946 (summer); 1944-
Kenneth Lindsay Duke, A.B., Ph.D., Associate Professor of Anatomy.
A.B., Brigham Young, 1936; Ph.D., Duke, 1940; Grad. Ass't. in Zool., Brigham Young Univ., 1936-1937; Grad. Ass't. in Zool., 1937-1939, and Fellow in Zool., Duke, 19391940;, Visiting Instr. in Anat., U. of Missouri, 1944; Visiting Ass't. Prof. of Anat., U. of Tenn. Sch. of Med., 1949; Assoc. in Anat., Duke, 1940-1946; 1940-

George Jay Baylin, A.B., M.D., Associate Professor of Radiology and Associate in Anatomy.

The required courses of instruction in gross human anatomy, histology, and neurology are scheduled for five and one-half days a week for a period of eighteen weeks during the first semester of the first year. Emphasis is placed upon the study of material in the laboratory. In an attempt to utilize more fully the laboratory time, visual educational methods are employed as fully as possible. These techniques consist of colored motion pictures of demonstration dissections, colored lantern slides, and motion pictures, both embryological and neurological. All of the instruction is designed to be as informal and as nearly individual as possible. General principles and the functional viewpoint of living anatomy are stressed in the hope that the student may be stimulated to secure a working knowledge of anatomy in the broadest sense. Whenever possible, fresh tissues and living cells are made available for examination, and clinical cases exemplifying anatomical principles are studied whenever they are available at appropriate times. Through the co-operation of the Department of Radiology, the students are given an oppor-
tunity to study portions of the living human body as revealed by the fluoroscope and roentgenograph. The following elective courses are offered:

Demonstrations in Anatomy. Using dissections already prepared, weekly demonstrations of selected regions or systems are made by the members of the group. Sixth quarter-Two hours per week by arrangement. Second-year students in groups of 10 .

Review in Anatomy. During the sixth quarter, a review in anatomy will be presented by the visual education methods outlined above, covering gross and neuro-anatomy, and histology.

Special Neuro-anatomy. Laboratory work and conferences upon selected portions of the human central nervous system. Limited to 6 junior or senior students. Two hours weekly by arrangement.

Brain Modeling. Free-hand reconstruction in clay, from gross and sectioned material, of the chief tracts and nuclei of the human brain stem By arrangement-4 to 10 students.
E.rpcrimcutal Ncurology. An operative and laboratory study of the effect of various lesions upon the central and peripheral portions of the nervous system. 4 to 8 junior and senior students by arrangement. Pre-requisite-operative surgery.

Adzanced Studies in Anatomy. These may be arranged at any time under the direction of the various members of the staff.

## Biochemistry

Philip Handler, B.S.. M.S.. Ph.D., Professor of Biochemistry and Nutrition and Chairman of the Department; Director, Atomic Energy Commission Fellowship Training Program, Duke.
B.S.. Coll. of City of New York, 1936; M.S. and Ph.D., Illinois, 1937 and 1939: Biochemist, Duke Hospital, 1939-
*William Alexandre Perlzweig, B.S., A.M., Ph.D., Professor of Biochemistry and Chairman of the Department.
B.S., A.M.. and Ph.D., Columbia, 1913, 1914. and 1915; Ass't. in Physiol. Chem., Columbia Med. Sch., 1913-1916; Research Chemist. Rockefeller Instit., 1916-1917; Research Biochemist, Hygienic Laboratory, U. S. Pub. H. Serv., 1919-1921; Instr. and Assoc. in Med., Johns Hopkins Med. Sch., 1922-1930; Chemist to the Med. Clin., Johns Hopkins Hosp., 1922-1930; Biochemist, Dukc Hospital, 1930-
Haywood Maurice Taylor, B.S., M.S., Ph.D., Professor of To.ricology and Associate Professor of Biochemistry:
B.S., M.S., and Ph.D., North Carolina, 1920, 1921, and 1924; Instr. in Chem. and Pharmaceut. Chem., North Carolina, 1920-1925; Research Chemist, E. R. Squibb \& Sons, and Fisk Rubber Co., 1925-1928; Instr. in Ophthalmol., and Chemist to Wilme: Institute, Johns Hopkins Hosp., 1928-1930; Visiting Fellow in Forensic Med., New York Univ., 1934; Associate Biochemist and To.ricologist, Duke Hospital, 1930-
Hans Neurath, Ph.D., Professor of Physical Biochemistry.
. Ph.D., Vienna, 1933; Instr. in Colloid Chem., Vienna, 1933-1934; Research Fellow. Univ, of London, 1934-1935; Research Fellow in Biochem. Minn., 1935-1936; Instr. in Chem., Cornell, 1936-1938; Biochemist, Dukc Hospital, 1938-
Jerome Sylvan Harris, A.B., M.D., Professor of Pediatrics and Associate Professor of Biochemistry.

* Died, December 10, 1949.

Mary Lilias Christian Bernheim, B.A., M.A., Ph.D., Associate Professor of Biochemistry.
B.A., M.A., and Ph.D., Cambridge, 1925, 1927, and 1929; Fellow, Newnham, $1927-$ 1930; 1930-
George William Schwert, Jr., B.A., Ph.D., Assistant Professor of Biochemistry.
B.A., Carlton Coll., 1940; Ph.D., Univ. of Minn., 1943; Instr. and Res. Assoc. in Biochem., Duke, 1946-1948; Markle Foundation Scholar in Med. Sciences, 1949; 1946-

## Fellows

Wilfried F. H. M. Mommaerts, B.A., M.A., Ph..D, Research Associate in Biochemistry and Established Investigator of the American Heart Association.
B.A., M.A., Leiden, Holland, 1937, 1939; Ph.D. Kolozvar, 1943; Visiting Assoc. Prof. Biochem., Adj. Prof. Biochem., Assoc. Prof. of Physio., American Univ. of Beirut, 1945-1948; 1948-

Henry Kamin, B.S., Ph.D., U. S. Public Health Service Fellow in Biochemistry.
B.S., Coll. of City of N.Y., 1940; Ph.D., Duke, 1948; Res. Ass't. in Biochem., Duke, 1940-1949; 1940-
John E. Snoke, B.S., Ph.D., Postdoctorate Research Fellow of the U. S. Public Health Service.
B.S., Univ. of Ill., 1946; Ph.D., Duke, 1949; 19f6-

Frank Tietze, B.S., Ph.D., Postdoctorate Research Fellow of the U. S. Public Health Service.
B.S., Trinity College (Conn.), 1945; Pb.D., Northwestern Univ., 1949; 1949-

David V. Cohn, B.S., Atomic Energy Commission Fellow in Biochemistry.
B.S., Coll. of City of N. Y., 1948; A.E.C. Pre-doctoral Fellow, Biochem., Duke, 1948; 1948-
Murray Heimberg, B.S., M.S., Nutrition Foundation Fellow in Biochemistry. B.S., M.S., Cornell Univ., 1948, 1949; 1949—

## Assistants in Biochemistry

Arthur F. Dratz, B.S., Research Assistant in Biochemistry. B.S., Duke, 1947; 1948-

Florapearl Armstrong, B.S., Research Assistant in Biochemistry. B.S., Univ. of Chattanooga, 1949; 1949-

Irwin Leder, A.B., M.S., Research Assistant in Biochemistry. A.B., Brooklyn Coll., 1942; M.S., N. Y. Univ., 1947; 1947-

Max A. Eisenberg, B.A., M.A.. Research Assistant in Biochemistry. B.A., Brooklyn Coll., 1938; M.A., N. Y. Univ., 1941; 1947-

Jules A. Gladner, B.S., M.S., Research Assistant in Biochemistry. B.S., M.S., Univ. of Delaware, 1948, 1949; 1949-

Robert G. Parrish, B.S., Research Assistant in Biochemistry.
B.S., Univ. of Wisc., 1949; 1949-

The required course in general biochemistry for first-year students is given over a period of eighteen weeks during the second semester. Two lectures, four laboratory periods, and one conference period per week are devoted first to the correlation of the fundamental facts and theories of
physical and organic chemistry of proteins, fats, and carbohydrates with the chemistry of living organisms; followed by an intensive study of the chemical aspects of the processes of digestion, absorption, circulation and respiration, acid-base and salt equilibrium, intermediary and over-all metabolism. Each student carries out on himself a fairly complete metabolic balance study involving quantitative analyses of blood and urine.

Since the success of the students in this course is largely determined by the adequacy and ready availability of their premedical training, it is urged that all students review the fundamental laws, theories, and facts of chemistry before the beginning of the course. A circular outlining the topics requiring special attention is sent to all students upon admission. Additional copies of the circular may be obtained from the Dean's Office. An examination to test the state of preparation of the student is given in the beginning of the course in biochemistry.

Electives. In connection with the course given in the sixth quarter for second-year students a survey of pathological and clinical chemistry is presented. In this course are covered abnormalities of protein, fat and carbohydrate metabolism, acid-base regulation, salt and water distribution, nitrogen retention, calcium and phosphorus metabolism, blood and derived bile pigments. The discussion of these topics is based upon case histories, including the records of the Clinical Chemical Laboratory of the Hospital.

Biochemical Research. The facilities of the department, including various types of research equipment and the clinical material of the blood chemistry laboratory, are available to properly qualified students for independent or supervised investigations. Chemical investigations of problems in biochemistry or in conjunction with the clinical and pathological departments may be carried on.

Seminar in Toxicology. A round-table discussion of the homicidal, suicidal and industrial poisons, alcoholism, etc., by arrangement.

Laboratory Detection of Common Poisons. A laboratory course in the properties, detection, and identification of the common poisons. Consideration is given to the types of material to be examined, legal precautions to be taken and interpretation of the findings, by arrangement.

Chemistry of Protcins, Enzymes, and Viruses. A two-hour seminar is given weekly throughout the Autumn, Winter, and Spring Quarters.

Physical Biochemistry. A two-hour lecture course with demonstrations, given weekly in Autumn and Winter Quarters. Given alternately with Chemistry of Proteins, Enzymes and Viruses.

Intermediary Metabolism. A two-hour lecture course and seminar conducted during Autumn, Winter and Spring Quarters. Given alternately with Seminar in Nutrition.

Advanced Seminar in Nutrition. A two-hour lecture and seminar course in modern nutritional concepts. Given alternately with Intermediary Metabolism.

## Physiology and Pharmacology

Frank Gregory Hall, B.A., M.A., Ph.D., Professor of Physiology and Chairman of the Department.
B.A., Milton, 1917; M.A. and Ph.D., Wisconsin, 1921 and 1923; Prof. of Biol., Milton, 1923 -1926; Assoc. Prof. and Prof. of Zool., Duke Univ., 1926-1942; Lt. Col., Chief, Physiol.' Branch, Army Air Forces, 1942-1945; 1945-

George Sharp Eadie, M.A., M.B., Ph.D., Professor of Physiology and Pharmacology.
M.A. and M.B., Toronto, 1923 and 1921; Ph.D., Cambridge, 1927; Rotat. Ynt., Toronto Gen. Hospital, 1921-1922; Demonstrator in Biochem., Toronto, 1923-1925; Ass't. in Physiol., Dalhousie, 1927-1928; Assoc. in Physiol., Johns Hopkins Med. Sch., 19281930; 1930-

Frederick Bernheim, A.B., Ph.D., Professor of Pharmacology.
A.B., Harvard, 1925; Ph.D., Cambridge, 1928; Nat'l Research Council Fellow, Johns Hopkins Med. Sch., Dept. of Physiol. Chem., 1929-1930; 1930-

Forest Draper McCrea, B.S., M.S., Ph.D., Associate Professor of Physiology and Pharmacology.
B.S., Purdure, 1918; M.S., Illinois, 1923; Ph.D., Wisconsin, 1927; Instr. in Physiol., Iliinois, 1920-1923; Instr.' in Physiol., Wisconsin Med. Sch., 1923-1927; Ass't. Prof. of Physiol. and Pharmacol., Georgia Med. Sch., 1927-1929; Sr. Instr. in Physiol., Western Reserve Med. Sch., 1929-1930; 1930-

Macdonald Dick, B.A., M.A., M.D., Assistant Professor of Physiology and Pharmacology, and Associate in Medicine.
B.A. and M.A., Virginia, 1922 and 1923; M.D., Johns Hopkins, 1928; Int. and Asss't. Res., Vanderbilt Univ. Hosp., 1928-1930; Ass't." in Path. and Bact., Rockefeller Instit., 1930-1932; Assistant Physician, Duke Hospital, 1932-

William Ernest DeTurk, B.A., M.A., Ph.D., M.D., Assistant Professor of Pharmacology.
B.A., Illinois, 1937; M.A., Illinois, 1938; Ph.D., Duke, 1940; M.D., Vanderbilt, 1948 ; Instructor in Biology, Vanderbilt, 1940-1943; Res. Associate, Vanderbilt, 1943-1947; Intern, Vanderbilt Univ. Hosp., 194さ-1949; 1949-

Frank Libman Engel, A.B., M.D., Assistant Professor of Medicine, and Associate in Physiology.

The course in medical physiology for first-year students is given over a period of eighteen weeks during the second semester. There are lectures, laboratories, and conferences each week in which are presented the general principles of human physiology and their general application to the practice of medicine. This course runs parallel to biochemistry.

The course in pharmacology is given in the first quarter of the second year. Lectures, laboratories, and conferences deal with the mode of action of drugs in terms of biochemical and physiological processes.

Physiological and Pharmacological Research: The facilities of the department include modern types of research equipment. There are special facilities for research in the field of respiration; circulation; and cellular metabolism. Properly qualified students are permitted to undertake original research in physiology and pharmacology under direction of various members of the staff.

Seminars: Seminars in special fields of physiology are offered to graduate students by various members of the staff.

## Bacteriology, Immunology, and Mycology

David Tillerson Smith, A.B., M.D., Professor of Bacteriology, Chairman of the Department, and Associate Professor of Medicinc.
A.B., Furman, 1918; M.D., Johns Hopkins, 1922; Int. in Ped., Johns Hopkins Hosp., 1922-1923; Ass't. in Path. and Bact., Rockefeller Instit., 1923-1924; Bacteriologist, Pathologist and Director, Research Laboratory of N. Y. State Hosp. for Tuberculosis, Raybrook, 1924-1930; Bacteriologist and Associate Physician, Duke Hospital, 1930-

Norman Francis Conant, B.S., A.M., Ph.D., Professor of Mycology and Associate Professor of Bacteriology.
B.S., Bates, 1930; A.M. and Ph.D., Harvard, 1931 and 1933; Research Fellow, Laboratoire de Parasitologie, Fac. de Medicine, Paris, 1933-1934; Research Ass't., Harvard Med. Sch. and Mass. Gen'1. Hosp., Jan. 1 to Oct. 1, 1935; Assoc. Prof. of Bacteriology and Mycology, 1935-1946; Mycologist, Duke Hospital, 1946-

Samuel Preston Martin, A.B., M.D., Associatc in Bacteriology and Medicinc.
Joseph W. Beard, B.S., M.D., Associate Professor of Virology and Professor of Surgery.
*Harvey Grant Taylor, A.B.. A.M., M.D., Associate Professor of Bacteriology and Pediatrics, and Assistant Dean.

Mary Alverta Poston, A.M., Instructor in Bacteriology.
A.M., Duke, 1939; Ass't. in Biol. Lab., Johns Hopkins Hosp., 1922-1930; Assistant Bacteriologist, Duke Hospital, 1930-

Hilda Pope, A.B., A.M., Ph.D., Instructor in Bacteriology.
A.B., Ga. State Coll. for Women, 1944; A.M., Ph.D., Duke, 1946, 1949; Assistant Bacteriologist, Duke, 1948-
H. W. Craig, Technical Instructor.

Nancy Scott, Technical Assistant.
Bacteriology, Immunology, and Mycology. The required course is given in the fourth quarter. An intensive study is made of the common bacteria, fungi, and viruses which cause disease in man. The scope of the laboratory course is reasonably wide and acquaints the student with all the methods and procedures employed in bacteriological laboratories. Most of the lecture time is devoted to the immunological and epidemiological aspects of infection. The instruction is designed to give the students a clear conception of: (1) how organisms gain entrance to the body, (2) the type of poisons which they produce, (3) the nature of immune bodies which are produced by the host, and (4) the methods of preventing the disease by active and passive immunization.

Research Bacteriology. Opportunities for original investigations are afforded a few specially qualified students.

Clinical Bacteriology. During their clinical clerkships on medicine (one quarter each for junior and senior classes), the students may perform the routine and special bacteriological work for the patients assigned to them on the teaching service, under the direction of the Department of Bacteriology and in parallel with the Biological Division of the medical clinic.

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## Pathology

Wiley Davis Forbus, A.B., M.D., Professor of Pathology and Chairman of the Department.
A.B., Washington and Lee, 1916; M.D., Johns Hopkins, 1923; Res. and Assoc. Pathologist, Johns Hopkins Hosp., 1926-1927 and 1929-1930; Guest Ass't. Pathol. Instr., Ludwig Maximilian's Univ., Munich, 1928; Pathol., Balto. City Hosps.; Consulting Pathologist, Frederick City Hosp., 1925-1930; Ass't. Instr., and Assoc. in Path., Johns Hopkins Med. Sch., 1923-1930; Pathologist, Duke Hospital, 1930-
Bernard Black-Schaffer, B.Sc., M.D., Associate Professor of Pathology.
B.Sc., New York, 1932; M.D., Vienna, 1937; Int., Rotat., Hosp. of St. Barnabas, Newark, N. J., 1938-1939; Int. in Path., Cumberland Hosp., New York City, 19391940; Fell. in Path., Henry Ford Hosp., 1940-1941; Ass't. in Path., Yale, 1941-1942; Assoc. and Ass't. Prof. of Path., Med. Coll. of Va., 1942-1945; Associate Pathologist, Duke Hospital, 1945-
John Tindall Cuttino, B.S., M.D., Associate in Pathology.
B.S., College of Charleston, 1932; M.D., Med. Coll. of the State of South Carolina, 1936; Int., Baker Sanatorium, 1935-1936; Int., Roper Hosp., 1936-1937; Ass't. Res., S. C. State Hosp., 1937-1940; Chief, Laboratory Service, U. S. Army, 1941-1945; Acting Dir., Undergrad. Cancer Training Program, May, 1948-Jan., 1950; 1946-
George Margolis, A.B., M.D., Associate in Pathology.
A.B., Johns Hopkins, 1936; M.D., Duke, 1940; Int. in Path., Duke, 1940-1941; Ass't. Res. in Path., Duke, 1941-1943; Res. in Path., Duke, 1943-1944; Major, M.C., A.U.S., 1944-1947; Volunteer in Neuropath., Montefiore Hosp., N. Y., 1947; Assoc. in Path. in charge of Neuropath., 1947-
Leland D. Stoddard, A.B., M.D., Instructor in Pathology.
A.B., DePauw, 1940; M.D., Johns Hopkins, 1943; Int. in Path., Duke, Jan.-Sept., 1944; M.C., A.U.S., Sept., 1944-Dec., 1946; Ass't. Res. in Path., Duke, 1947, 1948; Res. and Instructor in Path., Duke, 1949; Instructor in Path., Duke, 1947-
George F. Kiphie, M.Sc., M.D., Instructor in Pathology and Director Undergraduate Cancer Training Program.
M.D., Queens U., 1939; M.Sc., McGill U., 1948; Rotat. Int., Regina Gen. Hosp., 1939-1940; Res. in Path., Regina Gen. Hosp., 1940-1942; Ass't. Pathologist, Grey Nun's Hosp., 1942-1944; Director Laboratories, Regina General Hosptal and Grey Nun's Hospital, 1945-1946; Fellow in Pathology, McGill, 1946-1947; Research Fellow in Pathology, McGill, 1947-1948; Research Fellow in Pathology, Duke, 1948-1949; Instructor in Pathology and Teaching Fellow, Undergraduate Cancer Training Program, Duke, July, 1949-Jan., 1950; Instructor in Pathology and Director, Undergrad${ }_{\text {uate }}$ Cancer Training Program, Duke, 1948 -
Carl Bishop, Technical Assistant in Pathology.

## Fellows

Jack Neville Phillips Davies, Commonzuealth Fund Fellow.
M.B., Ch.B., U. of Bristol, 1939; M.R.C.S., L.R.C.P., U. of Bristol, 1939; M.D., U. of Bristol, 1948 .
Yin Chen Lee, M.D., American Bureau for Medical Aid to China Fellow. M.D., Yale Medical College, China, 1944.

## Graduate Students (House Staff)

Residents and Instructors in Pathology
Hugh Dortch, Jr., B.S., U. N. C., 1943; M.D., Duke, 1945; 2/1/50-7/1/50.
Seymour B. Silverman, B.S., McGill, 1941; M.D., McGil1, 1944; 7/1/507/1/51.

## Assistant Residents and Assistants in Pathology

Albert G. Smith, M.D., Washington U., 1947.
David S. Johnson, M.D., Washington U., 1948.
Roger K. Haugen, A.B., Augustana College, 1945; B.S., U. of South Dakota, 1946; M.D., Washington U., 1948.
Oscar Duque, M.D., U. of Antioquia, South America, 1947.

## Interns and Assistants in Pathology

Worth B. Daniels, Jr., M.D., Johns Hopkins, 1948.
General Pathology. The course in general pathology is given during the fifth and sixth quarter of the curriculum, following completion of the prerequisite courses in anatomy, physiology, biochemistry and bacteriology. All the work of the class is done with small groups, each under the guidance of a senior instructor and his junior assistant. The histological aspects of the pathological processes are studied coincidentally with the gross anatomical and physiological alterations of the tissues, thus maintaining a unity of conception of disease. As the various pathological processes and the diseases arising from their elaboration are studied by the student groups, assignments involving reports on the study of groups of cases are made to individual students. The group work and the individual student reports are supplemented by weekly conferences involving the class as a whole and dealing with problems presented by current autopsies and with other problems of general importance. Student collaboration in post-mortem studies is required. Cases thus studied are presented by the students before the class under the direction of the staff; this takes the form of a clinical-pathological conference in which each student plays a particular role.

Elective Courses. Special courses in pathology are given to students who have completed the course in general pathology. These courses are available through special arrangement.

Clinical-Pathological Conference. A weekly clinical-pathological conference for advanced study is held on Saturdays. It is open to all persons interested, but is designed especially for the Hospital and Medical School Staff. Attendance by all the students is encouraged but is optional. Miscellaneous weekly pathological conferences dealing with current cases under treatment on the various services are held for instruction of the staffs concerned.

Student Research. Research facilities are provided for competent students. Those who show an interest in investigative work are given every encouragement and are allowed to work independently or in collaboration with the staff.

Postgraduate Instruction. The staff of the department is composed of senior nonresident and junior resident members. The junior resident staff consists of interns, assistant residents, and a resident; all of these are active teachers as well as advanced students of disease. Ample opportunity for the development of a career in the field of pathology is provided for these men.

Medicolegal Instruction. The department works in close cooperation with the local coroner's office. Special medicolegal investigations for others are undertaken from time to time. The department collaborates with other departments of the Schools of Medicine and Law in a course in legal medicine that is given in alternate years.

## Medicine

Eugene Anson Stead, Jr., B.S., M.D., Florence Mc.Alister Professor of Medicine and Chairman of the Department.
B.S. and M.D., Emory Univ., 1928 and 1932; Int. Med., Peter Bent Brigham Hosp., 1932-1933; Research Fellow in Med., Harvard, 1933-1934; Int. Surg., Peter Bent Brigham Hosp., 1934-1935; Ass't. Res. in Med., Cincinnati Gen'l. Hosp., 1935-1936; Res. in Med., Cincinnati Gen'l. Hosp., 1936-1937; Instr. in Med.. Univ. of Cincinnati, 1935-1937; Res. Phys., Thorndile Memorial Laboratory; Ass't. in Med., Harvard and Boston City Hosp., 1937-1939; Associate in Med., Peter Bent Brigham Hosp., 19391942; Instr. in Med., Harvard, 1939-1941; Assoc. in Med., Harvard, 1941-1942; Act. Phys-in-Chief, Peter Bent Brigham Hosp., 1942; Prof. of Med. and Phys-in-Chief, Emory Div. of Grady Hosp., 1942-1946; Dean, Emory Unir. Sch. of Med., 1945-1946; Physician, Dukc Hospital, 1947-
Jasper Lamar Callaway, B.S., M.D., Professor of Dermatology and Syphilology.
M.D., Duke, 1932; B.S., Alabama, 1935; Ass't. Instr. in Derm. and Syphil., Univ. of Pa. Med. Sch., 1932-1933; Int. and Ass't. Res. in Med., Duke Hosp., 1933-1935; Instr. in Phys. Diag. and Path., Univ. of Alabama, Jan.-July, 1935; Instr. in Derm. and Syphil., Pa. Sch. of Med., 1935-1937; Ass't. Field Physician. U. S. Public Health Serv., Feb.-July, 1937; Physician and Dermatologist, Duke Hospital, 1937-

Oscar Carl Edvard Hansen-Prüss, A.B., M.D., Professor of Medicine in Charge of Clinical Microscopy.
A.B., Universidad Mayor de San Marcos, 1919; Vol. Ass't. in Path., Friedrich Wilhelm Universität, Berlin, 1920-1921; M.D., Johns Hopkins, 1924; Int., Ass't. Res. in Med., and Ass't. Phys., Johns Hopkins Hosp., 1924-1930; Ass't. Instr., and Assoc. in Medicine, Johns Hopkins Med. Sch., 1925-1930; Physician, Duke Hospital, 1930-
Julian Meade Ruffin, A.B., M.A., M.D., Professor of Medicine.
A.B., M.A., and M.D., Virginia, 1921, 1922, and 1926; İnt. and Res., Bellevue Hosp., N. YY., 1926-1928; Instr. in Phys. Diag., Geurge Washington Med. Sch., 1928-1930; Physician, Duke Hospital, 1930-
David Tillerson Smith, A.B., M.D., Professor of Bacteriology, Chairman of the Department, and Associate Professor of Medicine.

Walter Kempner, M.D., Associate Professor of Medicine.
M.D., Heidelberg, 1927; Int. in Med., Univ. Hosp., Heidelberg, 1926-1927; Research Assoc. and Ass't. to Prof. O. Warburg, Kaiser Wilhelm Institut. f. Zellphysiologie, Berlin-Dahlem, 1927-1928 and 1933-1934; Ass't. Phys., Univ. Hosp. of Berlin, 19281933; Associate Physician, Duke Hospital, 1934-
William McNeal Nicholson, A.B., M.D., Associate Professor of Medicine, in Charge of Post-graduate Education and Diseases of Metabolism.
A.B., Duke, 1927; M.D., Johns Hopkins, 1931; Int. in Med., Johns Hopkins Hosp., 1931-1932; Ass't. in Path. and Med., Johns Hopkins Med. Sch., 1932-1935; Associate Physician, Duke Hospital, 1935-
Edward Stewart Orgain, M.D., Associate Professor of Medicine.
M.D., Virginia, 1930; Int. Ass't. Res. and Res. in Med., Univ. Hosp., Cleveland, 1930-1933; Res. Fellow in Med., assigned to Cardiology, Mass. Gen'i. Hosp., 1933-1934: Associate Physician, Duke Hospital, 1934-

Frank Libman Engel, A.B., M.D., Assistant Professor of Medicine, and Associate in Physiology.
A.B., Dartmouth Coll,, 1934; M.D., Johns Hopkins, 1938; Int., Rot., MIt. Sinai Hosp, 1939-1941; House Phys., Mt. Sinai, 1941; Fellow, Nat'1. Res. Council, Yale, 19411943; Research. Assoc., Yale, 1943-1946; Assoc. in Med., Emory Univ. Sch. of Med., 1946-1947; Assistant Physician, Duke Hospital, 1947-
James Paisley Hendrix, B.S., M.A., M.D., Assistant Professor of Medicine. B.S., Davidson, 1925; MI.A., Davidson, 1926; M.D., Pennsylvania, 1930; Int., Hosp. of Univ. of Pa., 1930-1932; Res. Fellow in Pharm., Pennsylvania, 1932-1935; Instr. in Pharm., 1935-1938; Part-time Staff Phys., Med. and Gastro-Intestinal Clinics, University Hosp., 1935-1938;' Lecturer in Pharm., Univ. of N. C. Med. Sch.. 1943-1944: Assistant Physician, Duke Hospital, 1938-

John Bamber Hickam, A.B., M.D., Assistant Professor of Medicine. A.B., Harvard College, 1936; M.D., Harvard, 1940; Int., Peter Bent Brigham Hosp., 1940-1942; Med. Res., Grady Hosp., 1942-1943; U. S. Army, 1943-1946; Ass't. in Med., Emory Univ. Sch. of Med., 1946-1947; Assistant Physician, Duke Hospital, 1947-
E. Charles Kunkle, B.A., M.D., Assistant Professor of Medicine in charge of Neurology.
B.A., Haverford College, 1935 ; M.D. Cornell University Medical College, 1939; Intern and Assistant Resident, New York Hospital, and Assistant in Medicine, Cornell University Medical College, 1939-1942; Medical Corps, Army Air Forces (Major), 19421946; Research Fellow, New York Hospital, and Instructor in Medicine, Cornell University Medical College, 1946-1948; Assistant Physician, Duke Hospital, 1948-
Elifah Eugene Menefee, Jr., B.S., M.D., Assistant Professor of Medicine.
B.S. and M.D., Duke, 1936; Int., N. Y. State Sanatorium, Raybrook, July 1-Aug. 31, 1936; Int. in Med., Duke Hosp., 1936-1937; Research Fellow in Med. and Bact., Duke Med. Sch., 1937-1938; Ass't. Cardiology, Mass. Gen'l. Hosp., 1938-1939; Res. in Tbe., Bellevue Hosp., New York City, Jan. 1-Dec. 31, 1939; Assistant Physician, Duke Hospital, 1940-
Jack Duane Myers, A.B., M.D., Assistant Professor of Medicine.
A.B.. Stanford Univ., 1933; M.D., Stanford Univ. Sch. of Med., 1937; Int. in Med., Stanford Hosp., 1936-1937; Ass't. Res. in Med., Stanford Hosp., 1937-1938; Res. Fellow in Med., Harvard Med. School, 1938-1939; Ass't. Res. in Med., Peter Bent Brigham Hosp., 1939-1940; Res. in Med., Peter Bent Brigham Hosp., 1940-1942; Lt. Col., U. S. Army, Med. Corps., 1942-1945; Assoc. in Med., Emory Univ. Sch. of Med., 1945-1946; Assistant Plysician, Duke Hospital, 1947-
Elbert Lapsley Persons, A.B., M.D., Assistant Professor of Medicine, Director of Student Health, and Associate Professor of Preventive Medicine and Public Hcalth.
A.B., Ohio State, 1923; M.D., Harvard, 1927; Int., Huntington Mem. Hosp., Boston, 1925-1926; Int. and Res. in Med., Mass. Gen'l. Hosp., 1927-1930; Teaching Fellow in Med., Harvard Med. Sch., 1929-1930; Res. in Med. and Assistant Physician, Duke Hospital, 1930-1942; Col., Chief of Med. Serv., 65 th (U. S.) Gen. Hosp., 1942-1945; Assistant Physician, Duke Hospital, 1945-1946; 1945-
Ralpy Wayne Ruxdles, A.B., Ph.D., M.D., Assistant Professor of Medicine. A.B., DePauw, 1933; Ph.D., Cornell, 1937; M.D., Duke, 1940; Ass't. and Instr. in Anat., Cornell, 1933-1937; Int., Ass't. Res. and Res. in Med., Univ. of Mich. Hosp., 1940-1943; Instr. and Research Ass't. in Med., Simpson Mem. Instit.. 1943-1945; Assistant Physician, Duke Hospital, 1975-
Macdonald Dick, B.A., M.A., M.D., Assistant Professor of Physiology and Pharmacology, and Associate in Medicine.
Arthur H. Flower, Jr., A.B., M.D.. Associate in Dermatology and Syphilology.
A.B., Heidelberg College, Tiffin, Ohio, 1938; M.D., Duke, 1942; Intern in Medicine, Duke, 1942-1943; Assistant Resident, Dermatology and Syphilology, Duke, 1943-1944; Resident, Dermatology and Syphilology, Duke. 1944; U. S. Army Medical Corps, Major, 1944-1947; Fellow, Dermatology and Syphilology, Duke, 1947-1948; Assistant Physician, Duke Hospital, 1977 -

Herbert Junius Fox, M.D., Associate in Medicine.
M.D., Duke, 1935; Int. and Ass't. Res. in Med., University Hosps., Cleveland, 19351938; Fellow, Thorndike Memorial Laboratory, Boston City Hosp., and Assoc. Instr. in Med., Harvard Med. Sch.. 1938-1940; Lt. Comdr. Med. Corps, U. S. Navy, 19421946; Assistant Physician, Duke Hospital, 1940-
Joseph M. Hitch, A.B., M.S., M.D., Associate in Dermatology and Syphilology.
A.B., University
1938;
Intern in 1938; Intern in Dermatology and Syphilology, University of Virginia, 1933-1934; Dermatology and Syphilology, Cleveland City Hospitals, 1935-1936; Resident in Dermatology and Syphilology, University of Virginia, 1936-1937; Instructor in Dermatology and Syphilology, University of Virginia Hospital, 1937-1938; Instructor in Dermatology and Syphilology, Duke University, 1938-1942; USNR, 1942-1946; Assistant Physician. Dulke Hospital. 1946-

Samuel Preston Martin, M.D., Associate in Medicine.
M.D., Washington Univ. Sch. Med., 1941; Intern, Pathology, and Ass't., Dept. of Pathology, Washington Univ. Sch. Med., 1941; Intern and Ass't. Res., Med., Washington Univ. Sch. Med., 1942-1944; Ass't., Dept. of Med., Washington Univ. Sch. Med., 1943-1944; U. S. Army Med. Corps, 1944-1947; Resident and Instr., Med., Duke, 1947-1948; Research Fellow, American College of Physicians, The Rockefeller Inst. for Med. Res., 1948-1949; Assistant Physician, Duke Hospital, 1949-
Talmage Lee Peele, A.B., M.D., Associate Professor of Anatomy and Associate in Medicine.

Charles Woodrow Styron, B.S., M.D., Associate in Medicine.
B.S., N. C. State, 1934; M.D., Duke, 1938; Int., Ped., Duke, July 1938-March 1939; Int., and Res., Med., Boston City Hosp., April 1939-October 1940; Elliott P. Joslin Fellow in Med., New England Deaconess Hosp., October 1940-September 1942; Lt. Comdr, M.C., ƯSNR, October 1942-February 1946; Assistant Physician, Duke Hospital, $1946-$

## Instructors

Robert J. Atwell, A.B., M.D., Instructor in Medicine.
A.B., Duke, 1941; M.D. Duke, 1944; Intern, Ass't. Res., and Res., Med., Duke, 1944-1947; Ass't. Res., Chest Service, Bellevue Hosp., 1947-1948; Assistant Physician, Duke Hospital, 1948-

Sherwood W. Barefoot, B.S., M.D., Instructor in Dermatology and Syphilology.
B.S.. U. N. C., 1936; M.D., Duke, 1938; Intern and Ass't. Res., Med., Duke, 1938 1939; Ass't. Res., Derm. and Syphil., Duke, 1940; Dermatologist, U. S.' Army, 19411945; Research Fellow, Bellevue Hosp., 1940-1941; Fellow, Derm. and Syphil., Duke, 1945-1946; Private Practice in Dermatology and Syphilology, Greensboro, N. C.; Assistant Physician, Duke Hospital, 1946-
Frank C. Bone, A.B., M.D., Instructor in Medicine.
A.B., Duke, 1940; M.D., Duke, 1943; Intern, Med., Strong Mem. Hosp., 1944; Ass't. Res., Med., Duke, 1944-1945; Res., Duke, 1945-1946; USNR, 1946-1947; Ass't. Res., Med., 1948; Assistant Physician, Duke Hospital, 1948-
Robert A. Broome, Jr., M.D., Instructor in Medicine.
M.D., Duke, 1944; Intern, Med., Mass. Gen. Hosp., 1944; Ass't. Res., Med., Duke, 1944-1945; Instr., Med., U. of Ala., 1945; U. S. Army, 1945-1947; Ass't. Res., Med., Duke, 1947-1948; Instr. and Fellow in Med., Duke, 1948-1949; Instr. in Med. and National Heart Institute Trainee (Cardiology), Duke, 1949; Assistant Physician, Duke Hospital, 1949-
Chester Cassel, B.S.. M.D., Instructor in Medicine.
B.S., Univ. of Fla., 1939; M.D., Columbia, 1943; Intern, Mixed, Mt. Sinai Hosp., 1943 ; U. S. Army Med. Corps, 1944-1946; Res., Chest Serv., Bellevue Hosp., 1946 1947; Res., Bact. and Path., Mt. Sinai Hosp., 1947-1948; Res., Med., Mt. Sinai Hosp., 1948-1949; Assistant Physician, Duke Hospital, 1949-

Albert Derwin Cooper, A.B., M.D., Instructor in Medicine.
A.B. and M.D., George Washington, 1932 and 1931; Int., Rotat., Garfield Mem. Hosp., Washington, 1931-1932; Int. in Path. and Med., Duke Hospital, 1932-1934; Priv. Prac., Internal Med. and Allergy. 1934-1944; Med. Dir., Durham County Tuberculosis Sanat.; Ass't. Health Officer, Durham City and County Health Department, Durham. N. C., 1944; Assistant Physician, Duke Hosptial, 1944-

Cocrtlayd H. Davis, Jr., B.A., M.D., Instructor in Medicine, and Resident in Ncurology:
B.A.. George Washington Univ., 1941; M.D., Univ. of Va., 1944; Intern, U. S. Marine Hosp., New Orleans, 1944-1945; Ass't. Res., Neurosurgery, Univ. of Va. Hosp.. $1945-$ 1946; Neurosurgeon. U. S. Army, Halloran General Hosp. and Walter Reed Gen. Hocp, 1946-1948; Fellow. U'SPHS. in Neuropathology, Duke, 1948-1949; Fellow: T'SPAH, in Neurology, and Resident, Duke. 1949; Assistant Physician, Duke Hospital. 1949-
John Horton Doane, Jr., B.S., M.D., Instructor in Medicine.
B.S., Mansf.eld State Teachers College, 1941; M.D. U. of Pa., 1944; Int.. U. or Pa., 1944-1945: USNR, 1945-1946; Res., Med., Robert Parker Hosp., and Guthrie Clinic, 1946-1948; Assistant Physician, Duke Hospital, 1948-1949-

William J. Fleming, A.B., M.D., Instructor in Medicine.
A.B., Stanford, 1940 ; M.D., Stanford, 1945; Intern, Rotating, San Francisco County Hosp., 1944-1945; Ass't. Res., Med., San Francisco County Hosp., 1945-1946; U. S. Army Med. Corps, 1946-1948; Ass't. Res., Med., Duke, 1948-1949; Assistant Physician, Duke Hospital, 1949-
Joseph S. Hiatt, Jr., A.B., M.D., Instructor in Medicine.
A.B., Duke, 1936; M.D., Duke, 1939; Intern, N. C. Sanatorium, 1940; Intern and Ass't. Res., Duke, 1940-1942; U. S. Army Medical Corps, 1942-1945; Resident Physician, N. C. Sanatorium, 1945-1946; Assoc. Med. Dir., and Assoc. Sup't., N. C. Sanatorium, 1946; Assistant Physician, Duke Hospital, 1949-
Bernard C. Holland, B.S., M.D., Instructor in Medicine.
B.S., Emory, 1940; M.D., Emory, 1943; Intern, Med., Grady, 1943; Ass't. Res., Med., Grady, 1944; Ass't. Res., Med., Barnes Hospital, St. Louis, 1944-1945; Ass't. Res., Med., Grady, 1945; U. S. Army Med. Corps, 1945-1947; Ass't. Res., Med., Duke, 1947-1948; Res. and Instr. in Med., 1948-1949; Fellow, USPHS, 1949; Assistant Physician, Duke Hospital, 1948-

Carl C. Jones, Jr., B.S., M.D., Instructor in Medicine.
B.S., Emory, 1943; M.D., Emory, 1945; Intern, U. S. Naval Hosp., Charlestón, S. C., 1945-1946; USNR, 1946-1948; Ass't. Res., Med., Bowman Gray, 1948-1950: Assistant Physician, Duke Hospital, 1950-
Grace Pardridge Kerby, B.S., M.D., Instructor in Medicine, Resident in Dermatology and Syphilology.
B.S., Fla. State College, 1933; M.D., Duke, 1946; Intern, Med., Duke, 1946-1947; Ass't. Res. and Res. in Derm. and Şyphil., Duke, 1947; Assistant Physician, Duke Hospital, 1947-

William F. Lovell, A.B., M.D., Instructor in Medicine.
A.B., Duke, 1942; M.D., Duke, 1945; Intern, Med., Duke, 1945-1946; U. S. Navy, 1946-1948; Res., Med., Henry Ford Hosp., 1948-1950; Assistant Physician, Duke Hos: pital, 1950-

Joseph McCracken, A.B., M.D., Instructor in Medicine.
A.B. and M.D., Duke, 1934 and 1937; Intern, Pathology, Baltimore City Hospital, 1937-1938; Intern, Medicine, Baltimore City Hospital, 1938-1939; Assistant Resident in Medicine, Grady Hospital, 1939-1940; Resident in Medicine, Pratt Diagnostic Hospital, Boston, Mass., 1940-1941; Major, U. S. Army Medical Corps, 1942-1946; Private Practice in Internal Medicine, Durham, N. C., 1946; Assistant Physician, Duke Hospital, 1946-
Richard J. F. Murphy, B.Sc., M.D., C.M., Instructor in Medicine.
B.Sc., Dalhousie Univ., 1939; M.D., C.M., Dalhousie Univ., 1943; Intern, Rotating, Victoria Gen. Hosp., Halifax, N. S., 1942-1943; Royal Canadian Navy, 1943-1946; Ass't. Res., Med., Royal Victoria Hosp., Montreal, 1946-1947; Caverhill Teaching Fellow, McGill Univ., 1947-1948; Assistant Physician, Duke Hospital, 1948-

John Bernard Pfeiffer, Jr., B.S., M.D., Instructor in Medicine.
B.S., St. Peter's College, Jersey City, N. J., 1938; M.D., Cornell, 1942; Intern, Med., New York Hosp., 1942-1943; Military Service, 1943-1946; Ass't. Res. and Ass't. in Med. and Neurol., New York Hosp. and Cornell, 1946-1948; Instr., Med., Cornell, Ass't. Phys. to Out-patients, New York Hosp., and Section Chief, Neurology, Kingsbridge Road, 1948-1949; Assistant Physician, Duke Hospital, 1949-
Peritz Scheinberg, A.B., M.D., Instructor in Medicine.
A.B., Emory, 1941; M.D., Emory, 1944; Intern, Med., Grady Hospital, Atlanta, $1944-$ 1945; USNR, 1945-1946; Research Fellow, Grady Hospital, 1946-1947; Ass't. Res., Med., Grady Hospital, 1947; Ass't. Res., Med., Duke, 1947-1948; Fellow, American College of Physicians, Duke, 1948-1949;' Instructor in Med. and Fellow, American Heart Assoc., Duke, 1949; Assistant Physician, Duke Hospital, 1948-
James F. Schieve, D.V.M., M.D., Instructor in Medicine, Resident in Medicine. D.V.M., Michigan State College, 1940; M.D., College of Medicine, University of Cincinnati, 1943; Internship, Rotating, Cincinnati General Hospital, Jan.-Sept., 1944; Assistant Resident, Medicine, Cincinnati General Hospital, Sept. 1944-July, 1945; Assistant Resident, Medicine, Grady Memorial Hospital, Atlanta, Georgia, July, 1945March, 1946; Med. Corps. AUS, 1946-1948; Senior Assistant Resident, Medicine, Duke Hospital, Durham, N. C., Feb., 1948-July, 1949; Assistant Physician, Duke Hospital, 1949-

Richard Hopkins Sinden, M.D., Instructor in Medicine.
M.D., Duke, 1942; Intern, Med., Duke, 1943-1944; U. S. Army, 1944-1946; Ass't. Res., Med., Duke, 1946-1947; Fellow, Dr. E. P. Joslin, Boston, 1947-1948; Instr., Med., Duke; Assistant Physician. Duke Hospital, 1948-1949-
William Vance Singletary, A.B., M.D., Instructor in Medicine.
A.B., University of North Carolina, 1940; M.D., Duke, 1943; Intern, Med., Duke, 1944; Ass't. Res., Med., Watts, 1944-1945; Res., Med., Watts, 1945-1946; U. S. Army Medical Corps, 1946-1948; Ass't. Res., Med., Duke, 1948; Private Practice, Internal Medicine, Durham, 1948; Assistant Physician, Duke Hospital, 1948-
Joseph Harold St. John, B.S., M.D., Instructor in Medicine.
B.S. and M.D., Duke, 1945; Intern, Med., Duke, 1945-1946; U. S. Army Med. Corps, 1946-1948; Ass't. Res., Med., Duke, 1948-1949; Assistant Physician, Duke Hospital, 1949-
Helen Starke, A.B., M.D., Instructor in Medicine.
A.B., Duke, 1938; M.D., Duke, 1942; Intern, Med., Duke, 1942-1943; Research Assistant, Duke, 1942-1943; Ass't. Res., Med., Strong Memorial Hosp., 1943-1944; Fellow, Medicine, Duke, 1944-1948; Assistant Physician, Duke Hospital, 1944-
Frederick A. Thompson, Jr., Mi.D., Instructor in Medicine.
MI.D., Duke, 1946; Intern, Med., Duke, 1946-1947; Ass't. Res., Med., Duke, 1947 1948; Ass't. Prof.' Experimental Med., School of Public Health, Univ. of N. C., 1948-1950; Assistant Physician, Duke Hospital, 1950-
Carl M. Voyles, Jr., Instructor in Medicine.
B.S., William and Mary, 1945; M.D., Duke, 1945; Intern, Med., Johns Hopkins Hospital, 1945-1946; Medical Officer, AUS, 1946-1948; Ass't. Res., Med., Duke, 1948 1950; Assistant Physician, Duke Hospital, 1950-
William W. Watkins, M.D., Instructor in Medicine.
M.D., Duke, 1945; Intern, USN Hosp., Portsmouth, Virginia, 1945-1946; Medical Officer, USN, 1946-1948; Ass't. Res., Derm. \& Syphil., Duke, 1948-1950; 1950-
K. D. Weeks, B.S., M.D., Instructor in Medicine.
B.S., Davidson College, Davidson, N. C., 1935; M.D., Duke, 1939; Intern in Medicine, Duke, 1939-1940; Assistant Resident in Medicine, Duke, 1940-1941; Assistant Resident in Pathology, Vanderbilt University School of Medicine, 1941-1942; First Assistant Resident in Medicine, Duke, 1942-1943; Resident Physician in Medicine, Duke, 1943-1944; Lt. (MC), USNR, 1944-1946; Private Practice in Internal Medicine, Rocky Mount, N. C., 1946; Assistant Physician, Duke Hospital, 1947-
James W. Woods, B.A., M.D., Instructor in Medicine.
B.A., Univ. of Tenn., 1939; M.D., Vanderbilt, 1943; Intern, Rotating, U. of Pa. Hosp., 1943; Res., Med., U. of Pa. Hosp., 1944, 1946-1947; Fellow, Med. (Cardiology), U. of Pa. Hosp., 1947-1948; Assistant Physician, Duke Hospital, 1949-

## Assistants in Medicine

Samuel L. Elfmon, B.S., M.D., Assistant in Medicine.
B.S., University of Richmond, 1932; M.D., Medical College of Virginia, 1935; Intern, Rotating, Highsmith Hospital, Fayetteville, N. C., 1935-1936; Resident, Medicine, Highsmith Hospital, 1936-1937; Private Practice, 1937-1942; U. S. Army Medical Corps, 1942-1945; Private Practice, Fayetteville, N. C., since December, 1945; Duke Hospital, 1949—
E. T. Kraycirif, M.D., Assistant in Medicine.
M.D., Duke, 1945; Intern, Med., U. of Rochester, 1945-1946; U. S. Navy, 1946; Ass't. Res.. Med., Duke, 1946-1947; Private Practice, Internal Medicine, Burlington, N. C., 1947; Duke Hospital, 1949-

Jessica H. Lewis, A.B., M.D., Assistant in Medicine.
A.B., Goucher College, Baltimore, 1938; M.D., Johns Hopkins, 1942; Intern, Rotating, Hospital for Women of Maryland, 1942-1943; Assistant Resident, Medicine, University of California Hospital, 1943-1944; Research Fellow, Thorndike Memorial Laboratory and Harvard University, and Assistant in Medicine, Boston City Hospital, 1944-1946; Research, Emory University School of Medicine, 1946-1947; Post-doctorate Research Fellow, USPHȘ, Physiology Dept., U. N., C., Chapel Hill, and Duke, 1947-1948: Research Associate, Dept. Physiology, U. N. C., Chapel Hill, 1948; Duke Hospital, 1947一
Ernst Peschel, M.D., Research Assistant in Medicine.
M.D., Berlin, 1930; Int. in Medicine, Univ. Hosp., Berlin, 1929-1930; Vol. Ass't. Phys., Univ. Hosp., Berlin, 1930-1933; Duke Hospital, 1947-

Ruth Lohmann-Peschel, M.D., Research Assistant in Medicine.
M.D., Berlin, 1931; Int. in Medicine, Univ. Hosp., Berlin, 1930-1931; Vol. Ass't. Phys., Univ. Hosp., Berlin. 1931-1933; Ass't. Phys., Univ. Hosp., Berlin, 1933-1938: Dr. habil., Univ. Berlin, 1938; Duke Hospital, 1947-
Clotilde Schlayer, Ph.D., Research Assistant in Medicine.
Ph.D., Heidelberg, 1927; Voluntary Research Ass't. in Cellular Physiol., University Hosp. of Berlin, 1933-1935; Duke Hospital, 1937-
P. W. Smith, Technical Instructor in Clinical Microscopy.

## Fellows

David M. Bell, B.A., M.D., L.M.C.C., University of Alberta, Canada, 1939 and 1943; Fellow in Medicine, Duke, 1950-
George W. Crane, A.B., DePauw Univ., 1942; M.B., Northwestern, 1945; M.D., Northwestern, 1946 ; Fellow, Dermatology and Syphilology, Duke, 1949-

Emil T. Hansen-Anders, M.D., University of Copenhagen, 1941 ; Fellow, Rockefeller Institute; Duke, 1950-
Úlfar Jónsson, M.D., University of Iceland, 1947 ; Damon Runyon Fellow in Medicine, Duke, 1947-
Benjamin A. Levitan, B.Sc., McGill, 1943; M.D., C.M., McGill, 1944; M.Sc., McGill, 1948; Fellow in Medicine, Canadian National Research Council at Duke, 1949-
William S. Lynn, Jr., B.S., Alabama Polytechnic Inst., 1943; M.D., Columbia, 1946; Fellow in Medicine, Duke, 1948-
William W. Pryor, M.D., Duke, 1947; Fellow in Medicine (USPHS), Duke, 1947-
Charles L. Rast, Jr., A.B., Washington \& Lee University, 1943; M.D., Johns Hopkins, 1947; Intern, Med.. Johns Hopkins Hospital, 1947-1948; Assistant Resident, Medicine, Duke, 1948-1950; Fellow in Medicine, Duke, 1950-51.
William J. Taylor, B.S., Yale, 1943; M.D., Harvard, 1947; Intern, Boston City Hospital, 1947-1948; Assistant Resident, Medicine, Duke, 1948-1950; Fellow, Medicine, Duke, 1950-51.
Herbert O. Sieker, M.D., Washington University School of Medicine, 1948; Intern, Med., Duke, 1948-1949; Assistant Resident, Medicine, 1949-1950; Fellow, Medicine, Duke, 1950-51.
Theodore B. Schwartz, B.S., Franklin and Marshall College, 1939; M.D., Hopkins, 1943; Fellow in Medicine (USPHS), Duke, 1948
Robert W. Willett, B.S., Duke, 1948 ; M.D., Duke, 1948 ; Intern, Rotating, Syracuse University Hospitals, 1948-49; Intern, Med., Duke, 1948; Assistant Resident, Med., Duke, 1949-1950; Fellow in Medicine, Duke, 1950-1951.

## House Staff <br> Assistant Residents and Assistants in Medicine (1948-49 and 1949-50)

Ivan L. Bennett, M.D., Emory, 1946; 7/1/50-
Donald D. Carter, M.D., Duke, 1947 ; 1948-
Gus G. Casten, M.D., Southwestern, 1948; 1950-
Leighton E. Cluff, M.D., George Washington University, 1940; 1950-
Ben I. Friedman, M.D., Cincinnati, 1948; 1950-
Ladd W. Hamrick, Jr., B.S., Wake Forest, 1943 ; M.D., Bowman Gray, 1946 ; 1950-
James W. Hollingsworth, M.D., Duke, 1947; 1948-

Befjamin F. Huntley, III, M.D., Harvard, 1948; 1948-
Ramon L. Lange, M.D., Duke, 1949; 1949-
William S. Lynn, Jr., B.S., Alabama Polytechnic Inst., 1943; M.D., Columbia, 1946; 1948-
Harry T. McPherson, B.S., Duke, 1944; M.D., Duke, 1948; 1949-
Robert L. McWhorter, Jr., M.D., Duke, 1947; 1950-
Theo H. Mees, B.S., Capital Univ., Columbus, Ohio, 1938; M.D., Duke, 1942; 1950-
John C. Muller, B.S.. The Citadel, 1948; M.D., Duke, 1948 ; 1949-
James F. Nichel, A.B., Univ. of Okla., 1943 ; M.D., Washington University, 19+8; 1949-
Alañ A. Ory, A.B., Univ. of Ala., 1943; M.D., Vanderbilt, 1947 ; $1948-$
Karl B. Pace, Jr., M.D., Jefferson Medical College, 1947; 1949-
Willian W. Pryor, M.D., Duke, 1947; 1947-
Charles L. Rast, Jr., A.B., Washington and Lee, 1943 ; M.D., Hopkins, 1947 ; 1948-
Jack G. Robbins, M.D., Duke, 1948; 1949-
Hugh K. Sealy, Jr., M.D., Duke, 1948; 1948-
Herbert O. Sieker, M.D., Washington University, 1948; 1948-
William J. Taylor, B.S., Yale, 1943; M.D., Harvard, 1947; 1948-
Eugene J. Towbin, B.A., New York University, 1941; M.D., University of Rochester, 1949; 1949-
Carl M. Voyles, Jr., B.S., William and Mary, 1945; M.D., Duke, 1945 ; 1948-
William T. Watkins, M.D., Duke, 1945; 1948-
Robert W. Willett, B.S. and M.D., Duke, 1948; 1948-

## Interns

(1949-50 and 1950-51)
Mary Caroline Becker, A.B., Vanderbilt, 1946; M.D., Hopkins, 1950; 1950-
Lachlan L. Campbell, M.D., Duke, 1950; 1950-
Wilma Jeanne Cayada, B.S., Univ. of Kentucky, 1946; M.D., Duke, 1949 ; 1950-
Thomas E. Fitz, M.D., Duke, 1949 ; 1950-
Thomas L. Gorsuch, M.D., Duke, 1951 ; 1950-
Norman H. Garrett, Jr., M.D., Duke, 1950; 1949-
Robert L. Hallet, M.D., Duke, 1949; 1949-
Reginald B. Hexry, Jr., A.B., Univ. of Virginia, 1946; M.D., Univ. of Virginia, 1950; 1950
Jules Hirsch, M.D., Southwestern, 1948; 1949-
Murray B. Hunter, Mi.D., Duke, 1949 ; 1950-
Robert F. Kibler, M.D., Duke, 1948; 1949-
Ramon L. Lange, M.D., Duke, 1949; 1949-
Henry D. McIntosh, B.S., Davidson, 1943 ; M.D., Univ. of Pennsylvania, 1950; 1950-
Harry T. McPherson, B.S. and M.D., Duke, 1948; 1949-
Barbara C. Newborg, A.B., Swarthmore, 1941 ; M.D., Hopkins, 1949; 1949-
Joserf G. Parker, B.S., Harvard, 1943 ; M.D., Columbia, 1948; 1949-
Sam Houston Phillips, Jr., M.D., Southwestern, 1949; 1949-
Lloyd H. Ramsey, B.S., Univ. of Kentucky, 1942; M.D., Washington University, 1950 ; 1950-
Jack G. Robbins, Duke, 1948; 1948-

Fabian J. Robinson, M.D., Southwestern, 1948; 1950-
E. E. Schnoor, B.S., Univ. of California, 1942; M.D., Duke, 1951; 1950-

James L. Scott, Jr., M.D., Duke, 1948; 1949—
Eugene J. Towbin, B.A., New York University, 1941; M.D., University of Rochester, 1949; 1949-
Charles A. Vanarsdall, A.B., Vanderbilt, 1945; M.D., Hopkins, 1949 ; 1949—
John M. Wallace, A.B. and M.D., Washington University, 1946 and 1950; 1950-
Charles D. Williams, Jr., B.S., Wofford, 1946; M.D., Duke, 1949; 1950-
Introduction to Clinical Medicine and Physical Diagnosis. This course is initiated, in the fifth quarter, by introductory lectures, case discussions, and instruction in the methods of physical examination and history taking. Early in the course students begin work at the bedside in the examination of selected patients. Emphasis throughout is placed on instruction individually or in small groups. The interpretation and pathogenesis of all abnormal findings are stressed. The Departments of Neurology and Psychiatry provide training in neurological and mental examinations. This plan of teaching continues in the sixth quarter, when, in addition, instruction in the more specialized methods of examination is provided through the co-operation of the Departments of Surgery, Obstetrics, Gynecology, and Radiology.

Clinical Microscopy is given in the fifth quarter. The course includes the essentials of hematology and the examination of fresh material, such as urine, stools, spinal fluids, sputum, transudates, and exudates. The most important parasites of man are studied by the use of fresh and museum material. Second-year and senior students are given opportunities for special work and for investigation. This course is supplemented in the Junior and Senior years by Hematology Conferences, which are held weekly, and Ward Rounds, which are held three times weekly.

Cutaneous Medicine and Syphilology. Instruction consisting of lectures, seminars and study and treatment of patients in the out-patient clinics and on the wards is offered each quarter to Junior and Senior students. In addition, an elective course consisting of advanced teaching in clinical dermatology and syphilology is offered to a limited number of students.

Junior and Senior Mcdicine. The medical students are assigned to the medical wards as clinical clerks for one half of their time, and to the medical out-patient department where they examine patients for the other half of their time.

## Neuropsychiatry

Richard Sherman Lyman, B.A., M.D., Professor of Neuropsychiatry and Chairman of the Department.
B.A., Yale, 1913; M.D., Johns Hopkins, 1921; Int., Henry Phipps Psychiatric Clinic, 1921-1922; Charleton Fellow in Med., 1922-1923; and Assoc. in Psych., Johns Hopkins, 1923-1925; Clerkship, Neurology, Queens Square, London, 1925; Assoc. Prof. of Med..

Rochester Med. Sch., 1925-1929; Volun. Ass't., Laboratory of Experiment. Physiol., Leningrad, U.S.S.R., 1929-1930; Assoc. Prof. of Neuropsych., First Nat'l. Med. Sch., Shanghai, China, 1930-1931, and Peiping Union Med. Coll., 1931-1937; Lecturer in Psych., Henry Phipps Psychiatric Clinic, 1938-1940; Training and Assessment Work in O.S.S., 1944-1945; Neuropsychiatrist, Duke Hospital, 1940-

Leslie Benjamin Hohman, A.B., M.D., Professor of Neuropsychiatry.
A.B., Univ. of Missouri, 1912; M.D., Johns Hopkins, 1917; Int., Ass't. Res. and Res., Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, 1917-1922; U. S. Army, 1917-1919; Priv. Practice, 1922-1943; Associate in Psych., Johns Hopkins. 1922-1924; Lecturer in Psych., Univ. of Maryland, 1939-1943; Comdr., Med. Corps, U. S. Navy, 1943-1946; Ass't. Prof. of Psych., Johns Hopkins, 1944-1946; Neuropsychiatrist, Duke Hospital, 1946-

Willibald Scholz, M.D., Visiting Professor of Neuropsychiatry.
M.D., Jena, 1914; Military Medical Service, 1914-1918; Ass't. at the Clinic of Neurapsychiatry, Univ. of Tubingen (Prof. Gaupp), entrance into the academic career as "Privatdozent" (Psychiatry, Neurology, Neuropathology) at the Univ. of Tubingen, 1919-1926; Chief Physician at the Clinic of Neuropsych., Univ. of Leipzig (Prof. Schroder), 1926-1931; Assoc. (extraordinary) Prof. at Leipzig, 1930; Member of the German Rcsearch Institute for Psych. at Munich, working in its Neuropathological Depart. with Prof. Spielmeyer, 1931-1935; and Director of this Neuropathological Department since 1936; Visiting Prof. at the Peiping Union Med. Coll., Peiping, 1937; Military Medical Service, 1942-1944; Acting Director of the German Research Institute for Psych., Munich, since 1945; Co-editor of the "Zeitschrift fur die gesamte Neurologie und Psychiatrie" since 1936; Visiting Neuropsychiatrist, Duke Hospital, 1950-

Maurice H. Greenhill, A.B., M.D., Associate Professor of Neuropsychiatry. A.B., Rochester, 1931; M.D., Chicago. 1936; Int., Los Angeles Co. Gen'l. Hosp., 1936 1937; Psychiatrist, Worcester State Hosp., 1937.1939; Res. Psych., Mass. Gen., Hosp., 1939-1940; Rockefeller Fellow in Neurol,'1940-1941; Res. Fellow in Neurol., Harvard Med. Sch., 1940-1941; Res. Assoc., Neurological Unit, Boston City Hosp., 1940-1941, Associate Neuropsychiatrist, Duke Hospital, 1940-
*Hans Löwenbach, M.D., Associate Professor of Neuropsychiatry.
M.D., Hamburg, 1930; Int., Med. Clinic, 1929-1930; and Ass't. Physiolog. Inst., Freiburg i. B, 1930-1932; Ass't. Med. Clinic Köln, 1932-1933; Ass't. Kaiser Wilhelm Inst. f. Hirnforschung, Physiolog. Abt., Berlin, 1933-1935; Fellow, Nansen Fund, Oslo, Norway, 1935-1936; Ship's Surg., Whaling Expeditions, 1936-1939; Res. Ass't. in Psych., Johns Hopkins Med. Sch., 1939-1940; Assistant Neuropsychiatrist, Duke Hospital, 1940 -
George Fraser Sutherland, M.D., M.Sc., Associate Professor of Neuropsychiatry.
M.D., McGill, 1928; M.Sc. (Physical), McGill, 1932; Int., Montreal Gen. Hosp., 1928 1929; Research Fellow in Biochem., McGill, 1929-1930; Demonstrator Physiolog., McGill, 1930-1934; Res. Med., Vancouver Gen. Hosp.. 1934-1935; Research Assoc. Physiology, Cornell, 1935-1938; Ass't. in Psychiatry, Mass. Gen. Hosp., 1938-1940; Res. Phys., IcLean Hosp., 1940-1941; Ass't. Phys. in Research Dept.; Worcester State Hosp., 1942-1946; U. S. Army Med. Corps, 1942-1946; Visiting Assistant Professor of Neuropsychiatry, Duke Hospital, 1948 -

Robert Burke Suitt, M.D., Assistant Professor of Neuropsychiatry.
M.D., St. Louis, 1932; Int., Neuropsychiatric Serv., Alexian Bros. Hosp., St. Louss, 1931-1932; Int., St. Louis City Hosp., 1932-1933; Res. in Psychiatry, Highland Hosp., Asheville, N. C., 1933-1938; Ass't. in Psychiatry, Johns Hopkins Med. Sch., 1938-1940; Ass't. Dispen. Psych., Johns Hopkins Hosp., 1939-1940; Assistant Neuropsychiatrist. Duke Hospital, 1940 -
Lee Goodrich Sewall, A.B., M.D., Assistant Professor of Neuropsychiatry.
A.B., Univ. of Texas. 1927; M.D., Univ. of Texas, 1931; Gen. Rotat. Int., Cleveland A.b., Hosp., Cleveland, O., 1931-1932; Res. Phy. Med. and Surg., Deaconess Hosp., Cleveland, O., 1932-1933; Ass't. Res. Obstet., Univ. Hosp., Cleveland, O., 1933-1934; Gcn. Practice, Waco, Texas, 1934-1938; Med. Off., VA Hosp. (NP Hosp.) North Little Rock, Ark., 1938-1943; Senior Med. Off., VAH, Ft. Custer, Mich. (NP. Hosp.), 1943 1945; Lt. Col. U. S. Army 1944-1946; Clin. Dir. VAH (NP Hosp.), Lyons, N. J., 1945-1947; Instructor, Clinical Psychiatry, Washington Uniy., St. Lonis Mo., 1947-1948; Ch. Psy. and Neuro. Div., VA Branch Off., St. Louis, Mo., 1947-1948; Chief, Prof. Serv. and Dir., Professional Education. VA Hosp. (NP' Hosp.), Roanokc, Va., 1948; Assistant Professor of Neuropsychiatry, Duke Hospital, 1949-

* On leave, 1950-51.

Louis David Cohen, B.S., M.A., Ph.D., Assistant Professor of Neuropsychiatry, Assistant Professor of Psychology.
B.S., Brooklyn, 1934; M.A., Columbia, 1936; Ph.D., Duke, 1949; Grad. Student, Psychology, N. Y. University, 1938-1940; Lt. Col., U. S. Army, 1942-1946; Assoc. in Clinical Psychology, Duke. 1946-1949; Ass't. Prof. of Psychology, Duke, 1949; Assistant Professor of Neuropsychiatry, Duike Hospital, 1946-
R. Charman Carroll, R.N., A.B., M.D., Associate in Neuropsychiatry.
R.N., Highland Hosp., 1930; A.B., Duke, 1935; M.D., Colorado, 1939; Int. in Ped., 1939.1940, and Res. in Psychiatry, Duke Hospital, 1940-1942; Assoc. in Psych., Highland Hospital, Asheville, N. C., 1942-1944; Assistant Neuropsychiatrist, Duke Hospital, 1944; Dir., Highland Hosp., Asheville, 1948; Associate in Neuropsychiatry, Duke Hospital, 1944-

Marshall L. Fisher, B.S., M.D., Associate in Neuropsychiatry.
B.S., Univ. of Illinois, 1932; M.D., Univ. of Ill. Coll. of Med., 1935; Int., Rotating, County Hosp., Chicago, 1936-1937; Res. and Assoc. Physician Psych., Mateno State Hosp:, Mateno, Ill., 1937-1938; Private Practice. 1938-1942; Residency in Psych., Veterans Hospital, Palo Alto, Calif., and Langley Porter Clinic, San Francisco, Calif.; U. S. Army, Chief NP Section, Station Hosp., Camp Cooke, Calif.; Chief NP Section, 318th Station Hospital ETO; Chief NP Section 124th Gen. Hosp., ETO, 1942-1946; Private practice one year with part-time appointment in Psychiatry, Regional Office, San Diego, Calif.; Director Psychiatric Education, Veterans Hospital, Roanoke, Va., since March 1, 1949; Associate in Neuropsychiatry, Duke Hospital, 1949-

Jewett Goldsmith, A.B., M.D., Associate in Neuropsychiatry.
A.B., Johns Hopkins Univ., 1938; M.D., Univ. of Maryland School of Med., 1942; Int., Kings County Hosp., Brooklyn, N. Y., 1942-1943; Lieut., U. S. Navy, 1943-1946; V.A. Senior Res. in Psych., Duke Hospital, 1946-1948; Instructor in Neuropsychiatry, Duke Hospital, Jan. 1949-June 1949; Associate in Neuropsychiatry, Duke Hospital, July 1949-
Vernon Kinross-Wright, B.A., M.R.C.S., L.R.C.P., B.M.B.S., D.P.M., Associate in Neuropsychiatry.
B.A., Oxford, 1942; M.R.C.S., L.R.C.P., London, 1944; B.M.B.S., Oxford, 1945; D.P.M., London, 1947; Int., St. Thomas's Hosp. (Surrey branch); House Physician, Ass't Res., General Hospital, Ipswich, England, 1945; Res., St. Andrews Hospital, Northampton, Psychiatry, 1946; Graduate work, Psychiatry, Maudsley Hosp., London, 1945, 1946, and 1948; Graduate work, Neurology, Maiden Vale Hospital, London, 1945-1946; Ass't. Psychiatrist, St. Andrews Hosp., Northampton, England, 1947-1948; Director, Charlotte Mental Hygiene Clinic, June 1948; Instructor in Neuropsychiatry, Duke Hospital, 1949; Associate in Neuropsychiatry, Duke Hospital, 1949-

Robert Lawrence Craig, B.A., M.D., Associate in Neuropsychiatry.
B.A., Amherst College, 1931; M.D., Johns Hopkins, 1935; Int., Med., Baltimore City Hosps., 1935-1936; Ass't. Res., Med., Baltimore City Hosps., 1936-1937; Ass't. Res., Neurology, Baltimore City Hosps., 1937-1938; Res., Neurology, Duke, 1938-1939; Res., Neuropsychiatry, V.A. Mental Hygiene Clinic, Duke, 1948: Instructor in Neurology, Duke, and Ass't. Neurologist, Duke, 1939-1942 and 1946-1947; Instructor in Psychiatry, Duke Hosp., 1949; Associate Med. Dir., Highland Hosp., Asheville, N. C., 1949: Associate in Neuropsychiatry, Duke Hospital, 1938-

Irving Pine, M.D., Associate in Neuropsychiatry.
M.D., N. Y. Med. Coll., 1932; Int., Metropolitan Hosp., N. Y. City, June 1932-July 1933; Res., Tuberculosis, Seaview Hosp.. S. I., N. Y., July 1933-June 1934; Res., Metabolism, Seaview Hosp., S. I., N. Y., July 1934-June 1935; Res., Tuberculosis, Municipal San., Otisville, N. Y., Sept. 1935 through December 1936; Res., Neuropsych., Duke Hosp., March through June 1947 and December, 1948 through June 1949; Highland Hosp., Asheville, N. C., May 1946-November 1948 (excl. 3 mos. above); Associate in Neuropsychiatry, V. A. Hospital, N. Little Rock, Ark., 1939; 1st Lt. and Captain, AUS, May 1942-December 1945; Chief Rehab. and N. P. Consultations, V. A. Hosp., Oteen. N. C., April 1946-1947; Instructor, Neuropsychiatry and Acting Chief, EEG Lab., July 1, 1949, Duke Hospital; Associate in Neuropsychiatry, Duke Hospital, 1949-

Albert E. Rauh, M.D., Associate in Neurology; Chief, Neurological Service, V.A. Hospital, Roanoke, Va.
M.D., Harvard Med. Sch., 1935; Mass. Gen. Hosp., Ped. Int., 1936-1937; Fellow, Anatomy, Harvard, 1935-1937; Instr. Gross Anatomy and Neuroanatomy and Research, Harvard, 1935-1937; Boston City Hosp., Neurology, 1937-1938; Fellow in Psych., Hartford Retreat, 1938-1940; Res. Psych., N. Y. St. Psych. Inst., 1940-1941; U. S. Army, 1941-1946; Sr. Psych., Rockland St. Hosp., 1945-1946; Ch. Neurol., U.S.V.A.

Hosp., Lyons, N. J., 1946-1949 (NP Hosp.) ; V.A. Hosp., Roanokc, Va., Chief, Neurology, 1949; Associate in Neurology, Duke Hospital, 1949-
Wilson George Scanlon, B.A., M.D., Associatc in Neuropsychiatry.
B.A., Rollins Coll., 1936; M.D., Long Island Coll. of Med., 1941; Int., Rotating, Philadelphia Gen. Hosp., July 1941-July 1942; Int., Rotating, USNH, Philadelphia, Iuly 1942-January 1943; USS Alabama, February 1943-February 1945; Instruction in Neurol. and Psych., USNH, Philadelphia, Fehruary 19+5-May 1945; Ward Med. Officer, Neuropsychiatric Service, USNH, Portsmouth, Va., May 1945 - Xovenher 1945 ; Instruction in Electroencephalography and Neurology, USNH, Bethesda, Md., Novemher 1945-February 1946; Chief of NP Service and Electroencephalographer, USNH, Portsmouth, Va., February 1946-March 1947; Veteran Resident in Neuropsychiatry, Duke Hospital, March 1947-June 1948; Instructor in Neuropsychiatry and Physician-in-charge, Neuropsychiatric Public O.P.C., Duke Hospital, June, 19+8; Associate in Ncuropsychiatry, Duke Hospital, 1947-
George A. Silver, B.S., M.D., Associate in Neuropsyehiatry.
B.S., Guilford, 1934; M.D., Duke, 1938; Int., Ped., Duke, 1937-1938; Rotat. Int., St. Francis Hosp., Trenton, N. J., 1938-1939; Int., Obs., Marg. Hague Hosp., Jersey City, N. J., 1939; Gen. Practice, N. J., 1939-1941; Lt. Col. (Flight Surgeon), U. S. Army, March 1941-1946; Veteran Resident in Neuropsychiatry, Duke Hospital, 19461947; Instructor in Neuropsychatry, Duke Hospital, 1948-June 1949; Associate in Neuropsychiatry', Duke Hospital, 1946-
William Edgar Wilkinson, B.S., M.D., Professor of Military Science and Tacties; Associate in Neuropsychiatry.
B.S., Davidson, 1928; M.D., Duke, 1932; Int., Surgery, Duke, 1932-1933; Ass't. Res., Pathology, Duke, 1933-1934; Ass't. Res., Surgery, Duke, 1934-1935; Med. Officer. U. S. Army, 1935; Prof. of Military Science and Tactics, Duke Hosp., 1949; Asso. ciate in Neuropsychiatry, Duke Hosptial, 1949-

Bingham Dai, A.B., M.A., Ph.D., Lecturer in Psyehiatry.
A.B., St. John's, 1923; M.A. and Ph.D., Chicago, 1932 and 1935; Fellow in Soc. Sc., Yale. 1932-1933; Instit. for Psychoanalysis, 1933-1935; Fell., Assoc. and Ass't. Prof. in Med. Psych., Peiping Union Med. Coll., China, 1935-1939; Lecturer in Soc., Tsin Hua, 1936-1937; Lecturer in Soc., Psych., Fisk, 1939-1942; 1943-
David A. Young, A.B., M.D., Lecturer in Neuropsyehiatry.
A.B., North Carolina, 1928; M.D., Harvard, 1931; Int. Med., Mass. Gen. Hosp., 1931-1933; Int. and Res. in Neurol., Bellevue Hosp., 1933; Int. Psych., Worcester State Hosp., 1934; Res., Psych., McLean Hosp., Waverly, Mass., 1934; Senior Physician, McLean Hosp., 1936-1941; Ass't. Res. Neuropsych., Duke, 1935; Res. in Psych., Mass. Gen. Hosp., 1935-1936; Lecturer in Medicine, Univ. of N. C., 1946; 1946-

Marie Baldwin, A.B., M.D., Instructor in Neuropsychiatry.
A.B., Erskine College, 1924; M.D., South Carolina State Med. Coll., 1929; Int., Gen., Parkview Hosp., Rocky Mount, N. C., 1929-1930; Int., Ped., Buffalo Children's Hosp., Buffalo, N. Y.,' $1930-1931$; Ass't. Res., Psych., Duke, 1944-1945; Res., Med., Overlook Hosp., Summit, N. J., 1931-1932; Res., Psych., Duke, 1945-1946; Fellowship. Charlotte Mental Hygiene Clinic, 1945-1946; Senior Ass't., Highland Hospital. Asheville, N. C., June 1, 1946-January 1, 1949; Associate Psychiatrist, Highland Hospital. Asheville, N. C., January 1, 1949; Instructor in Ncuropsychiatry, Dike Hospital, 1949-

Stuart Reiley Ducker, B.S., M.D., Instruetor in Neuropsychiatry.
B.S., Yale, 19+2; M.D., Duke, 1944; Int., Rotating, USNH, Pensacola, Fla., September 1944-July 1945; Ass't. Res., Psych., Fairfield State Hosp., Newtown, Conn., 1946-1948; Res., Veteran Resident in Neuropsych., Duke Hosp., 1948-1949; Instructor in Neuropsychiatry, Duke Hospital, 1949-

Stephen Arnold Ginn, A.B., M.D., Instructor in Ncuropsychiatry.
A.B., Duke, 1936; M.D., Duke, 1941; Int., Rotating, St. Josephs, Atlanta, 1941-1942; Med. Officer, U. S. Navy. 1942 -1946 (Epidemiology); Ass't. Res., Ped., Egleston Hosp., Atlanta, 1946-1947; Res., Ped., Duke, 1947-1948; Child Psych., Bradley Home, E. Providence, R. I., 1948-1949; Psychiatry, Duke and Raleigh State Hosp., 19491950; Instructor in Neuropsychiatry, Duke Hospital, 1949-
William Wailes Magruder, B.S., M.D., Instruetor in Neuropsychiatry.
B.S., Mississippi State College, 1941; M.D., Duke, 1944; Int., Psych., Duke, October 1944 to July 1945; Res., Psych., Duke, July 1945 to April 1946; Veterans Hospital, Ft. Lyon, Colorado, July 1948 to Octoher 1948; Associate in Psych., Highland Hospital, Asheville, N. C., October 1948; Instructor in Neuropsychiatry, Duke Hospital, 1948-

Whlliam P. Wilson, B.S., M.D., Instructor in Neuropsychiatry.
B.S., Duke, 1943; M.D., Duke, 1947; Int., Rotating, Gorgas Hosp., Aneon, C.Z., 1947-1948; Staff Physician, State Hosp., Raleigh, 1948-1949; Instructor in Neuropsychiatry, Duke Hospital, 1949-

Susan Gower Smith, A.B., M.A., Associate in Nutrition.
A.B., Barnard, 1919; M.A., Columbia, 1924; Chemist, N. Y. State Hosp., 1926-1930; Instr. in Biochem., Instr. in Physiol. and Pharm., Assoc. in Physiol. and Nutrition, and Associate in Med., Duke Hospital, 1930-1946; 1930-
H. E. Jensen, Consultant. Professor of Sociology and Mental Hygiene.
D. K. Adams, Consultant. Professor of Psychology.

John Gillin, Consultant. Professor of Anthropology, Univ. of North Carolina.
E. T. Thompson, Consultant. Professor of Sociology and Mental Hygiene.

Weston LaBarre, Consultant. Assistant Professor of Anthropology.
Katharine R. Lyman, Social Worker.
Margaret C. Brietz, Social Worker.
Evalyn Abshear Lynch, Social Worker in Psychosomatic Medicine.
Mabel Ostlund, Social Worker in Child Guidance Clinic.
Catherine Groves Peele, Social Worker.
Irene Cherhavy, Speech Therapist in Child Guidance Clinic.
Florrie Garrett, Psychologist in Child Guidance Clinic.
Sue A. Little, Psychologist.
Sanford Goldstone, Psychologist.
E. Glenn Story, Psychologist.

Wilbur Edgertos, Psychologist.

## Fellows in Psychosomatic Medicine

Klaus William Berblinger, M.D., Fellow in Psychosomatic Medicine.
M.D., Munich, Germany, 1934; M.D., Bern, Switzerland, 1936; Int., German Hosp., London, England, 1934-1935; Int., DePaul Hosp., Norfolk, Va., 1938-1939; Res., Schinznach Hosp., Switzerland, 1935; Sanatorium Du Parc, Davos, Switzerland, 19361937; Grad. Work: Pathology, Univ. Bern, 1936; Radiology (Univ. Bern), 1936; Pathology/Bacteriology, Institute of Med. Research, Davos, Switzerland, 1937; Neurology and Psychiatry, Univ. of Zuerich, 1938; Private Practice of Medicine, Norfolk, Va., 1939-1949; Member of Active, Visiting Staff, DePaul Hosp., Norfolk; Member of Active, Visiting Staff, Norfolk Gen. Hosp.; Fellow in Psychosomatic Medicine, Duke Hospital, 1949-

William Norwood Fitzpatrick, B.S., M.D., Felloze in Psychosomatic Medicine.
B.S., Mercer Univ., 1941; M.D., Emory Univ., 1944; Int., Int. Med., Grady Hosp., 1944-1945; Ass't. Res., Int. Med., Grady Hosp., 19+5-1946; Ass't. Res., Neurology, St. Louis City Hosp., 6 months, 1948; Ass't. Res., Int. Med., Duke, 1948-1949; Instructor, Anatoiny, Emory Univ., 1942-1943; Fellow, Psychosomatic Medicine, Duke Hospital, 1949-

Frank Blackburn Gross, Jr., B.S., M.D., Fellow in Psychosomatic Medicine. B.S., Wake Forest College, 1943; M.D., Bowman Gray School of Med., 1945; Int., St. Louis Univ.; Ass't. Res., Pathology, Bowman Gray, 1948; Ass't. Res.. Int. Med., Bowman Gray, 1949; Captain, U. S. Army, at V. A. Hosp., Roanoke, Va.; Fellow in Psychosomatic Medicine, Duke Hospital, 1950-

Graduate Students
Tanash H. Atoynatan, P.C.N., Univ. of Instanbul. 1937; M.D., Univ. of Instanbul, 1944.
First Lieutenant in the Medical Corps of the Turkish Army from 1944-1947; Private General Practice, American Clinic, Talas, Kaysevi, Turker, 1947-1948; Dix Hill State Hospital, Rateigh, N. C., 1948-August 1949; Graduate Śtudent in Neuropsychiatry, Duke Hospital, August 1979-

Grey Bryan Kornegay, B.S., Univ. of N. C.; M.D., Duke, 1949.

## House Staff

Eugene J. Balcanoff, A.B., Clark; M.D., Tufts, 1944. Resident.
Wilmer C. Betts, B.S., M.D., Duke, 1948. Assistant Resident.
Seymour R. Kaplan, M.D., Duke, 1945. Veteran Resident.
Richard H. Phillips, B.S., Univ. of N. C., 1944 ; M.D., N. Y. U., 1945. Veteran Resident.
Emory F. Hodges, M.D., Univ. of Va., 1947. Veteran Resident.
John P. Briggs, A.B., Indiana State College, 1943; M.D., Wayne Univ., 1948. Veteran Resident.
William F. Blair, A.B., T.D., Univ. of Kansas, 1934; M.D., Univ. of Kansas, 1944. Veteran Resident.

Zachariah S. Sikes, Jr., M.D., Univ. of Georgia, 1938. Veteran Resident.
Rose Herman, B.A., 1939 ; M.D., Cleveland Coll. of Western Reserve. Veteran Resident.
Jean Martin Glasgow, B.S., College of William and Mary, 1932; M.D., Univ. of Va., 1936. Veteran Resident.
Instruction starts in the first year with an introductory course in psychobiology. In the second year, methods of psychiatric examination and a general presentation of the main reaction types are given. Each third-year student has a two-week clerkship on the psychiatric ward, and in the fourth year patients are worked up in the out-patient clinic for a period of three and a half weeks. A neuropsychiatric amphitheater clinic is held weekly throughout the year for third- and fourth-year students. Elective courses in neuropsychiatric methods of research, neurophysiological aspects of neuropsychiatry, psychosomatic medicine, phychoanalysis in medicine, and principles of psythotherapy are offered to fourth-year students. Students are invited to attend the staff case conferences, the monthly phychosomatic conferences and the conferences on neuropsychiatric disorders of childhood. Emphasis is placed upon the close relationship of psychiatry to other branches of medicine. Internships are available in neuropsychiatry with the expectation that they will lead to progressively greater interest in the neuropsychiatric problems encountered on all other services in the Hospital. Investigation is encouraged.

## Surgery

Deryl Hart, A.B., A.MI., M.D., Professor of Surgery and Chairman of the Department.
A.B. and A.M.., Emory, 1916 and 1917; M.D., Johns Hopkins, 1921; Int. in Surg., Ass't. Res. in Surg. Path., Ass't. Res. and Res. in Surg., and Assoc. Surg., Johns Hopkins Hosp., 1921-1930; Ass't. in Path., Instr., and Assoc. in Surg., Johns Hopkins Med. Sch., 1922-1930; Surgeon, Duke Hospital, 1930-

Clarence Ellsworth Gardner, Jr., A.B., M.D., Professor of Surgery.
A.B., Wittenburg. 1924; M.D., Johns Hopkins, 1928; Int. and Ass't. Res., Johns Hop. kins Hosp., 1928-1930; Ass't. in Surg., Johns Hopkins Med. Sch., 1929-1930; Res. in Surgery and Associate Surgeon, Duke Hosp., 1930-1942; Col., Chief of Surg. Serv., 65th (U. S.) Gen. Hosp., 1942-1945; Associate Surgeon, Duke Hospital, 1945-

Keith Sanford Grimson, B.A., B.S., M.D., Professor of Surgery.
B.A. and B.S., North Dakota, 1930 and 1931; M.D.. Rush Med. Coll., 1933; Int., Presbyterian Hosp., Chicago, 1933-1935; Ass't. Res.. Res., and Instr. in Surg., Chicago, 1935-1942; Assistant Surgeon, Duke Hospital, 1942-
Kenneth LeRoy Pickrell, M.D., Professor of Plastic Surgery.
M.D., Johns Hopkins, 1935; Int., Ass't. Res. and Res. in Surg., Johns Hopkins Hosp., 1935-1944; Assistant Surgeon, Duke Hospital, 1944 -
Will Camp Sealy, B.S., M.D., Assistant Professor of Surgery, in Charge of Diaision of Thoracic Surgery.
B.S. and M.D., Emory Univ., 1933 and 1936; Int. Surg., Ass't. Res. and Res., Duke Hos.., 1936-1942; Capt., Med. Corps, U. S. Army, 1942-1944; Chief, Surg. Service, 124th Gen. Hosp. and Lawson Gen. Hosp., 1944-1946; Assistant Surgeon, Duke Hospital, 1946-
Joseph W. Beard, B.S., M.D., Professor of Surgery in Charge of Experimental Surgery, and Associate Professor of Virology.
B.S., Chicago, 1926; M.D., Vanderbilt, 1929; Asst. and Instr. in Surg., Vanderbilt Univ. Med. Sch., 1930-1932; Int., Ass't. Res., and Res. in Surg., Vanderbilt Univ. Hosp., 1929-1932; Ass't. in Path. and Bact., Rockefeller Instit. for Med. Research, New York City, 1932-1935; Assoc. in Path. and Bact., Rockefeller Instit. for Med. Research. Princeton, 1935-1937; Assistant Surgeon, Duke Hospital, 1937-
Herman Max Schiebel, A.B., M.D., Associate in Surgery.
A.B. and M.D., Johns Hopkins, 1929 and 1933; Int., Ass't. Res. and Res. in Surg., Duke Hosp., 1933-1939; Surgeon-in-Chief, Lincoln Hosp.. 1940-; Attending Surgeon, Watts Hosp., 1940-; Assistant Surgeon, Duke Hospital, 1939-

Barnes Woodhall, A.B., M.D., Professor of Neurosurgery.
A.B., Williams, 1926; M.D., Johns Hopkins, 1930; Int., Ass't. and Res. in Surg., Johns Hopkins Hosp., 1930-1937; Ass't. and Instr. in Surg., Johns Hopkins Med. Sch., 1931-1937; Neurosurgeon, Duke Hosp., 1937-1943; Lt. Col., Med. Corps, U. S. Army. 1943-1945; Ncurosurgeon, Duke Hospital, 1945-

Guy Leary Odom, M.D., Associate Professor of Neurosurgery.
M.D., Tulane, 1933; Int., Rotat., East Louisiana State Hosp., 1934-1937; Res. Fellow, Path. Fellow, Int., and Res. in Neuro. and Neurosurg., Montreal Neurol. Instit., 1937-1942; Clin. Instr. in Neurosurg., L. S. U. Med. Sch., 1942-1943; Assistant Neurosurgeon, Duke Hospital, 1943-

William Banks Anderson, A.B., M.D., Professor of Ophthalmology.
A.B., North Carolina, 1920; M.D., Johns Hopkins, 1924; Int. Union Mem. Hosp., Balto., 1924-1925; Int., Mass. Eye and Ear Infirmary, 1925-1927; Ophthalmologist, Duke Hospital, 1930-

Watt Weems Eagle, A.B., M.D., Professor of Otolaryngology.
A.B., North Carolina, 1918; Grad. Stud., North Carolina, 1918-1919; M.D., Johns Hopkins, 1925; Int., Church Home and Infirmary, Baltimore, 1925-1926; Int., Ass't. Res. and Res. in Laryngol., Johns Hopkins Hosp., 1926-1929; Ass't. and Instr. in Laryngol., Johns Hopkins Med. Sch., 1927-1930; Otolaryngologist, Duke Hospital, 1930-

Ralph A. Arnold, B.A., M.D., Assistant Professor of Otolaryngology and Ophthalmology.
B.A., Rochester, 1932; M.D., Buffalo, 1936; Int. in Stud. Health, and Int., Ass't. Res. and Res. in Otolaryngology, Duke Hosp.. 1937-1941; Assoc. in Oto. and Ophthal., 19411942; Major, MC, AUS, 1942-1946; Assistant Otolaryngologist and Ophthalmologist, Duke Hospital, 1946 -

Frederick W. Stocker, M.D., Associate Professor of Ophthalmology.
M.D., Bern, 1918; Vol. Ass't., Univ. Eye Clinic, Munich, 1916-1917; Int. and Res., Univ. of Bern Eye Clinic, 1918-1921; Eye Path., Instit. of Ophth., Presbyterian Hosp.. New York. 1941-1942; 1943-

George Burton Ferguson, M.D., M.Sc. (Med.), Associate in Bronchoscopy. M.D., Jefferson, 1932; M.Sc. (Med.), Pennsylvania, 1936; Res. Phys., Jefferson Med. Coll. Hosp., 1932-1934; Bronchoscopist, Duke Hospital, 1937-
Lenox Dial Baker, M.D., Professor of Orthopaedic Surgery.
M.D., Duke, 1933; Int. in Orth. Surg. and in Gen'l. Surg.; Ass't. Res. in Orth. Surg., and Res. in Orth., Johns Hopkins Hosp., 1933-1937; Res., Children's Hosp. Sch., 1936; Ass't. and Instr., Orth. Surg., Johns Hopkins Med. Sch., 1935-1937; Orthopaedist, Duke Hospital, 1937-
Richard Beverly Raney, A.B., M.D., Associate in Orthopaedics.
A.B., North Carolina, 1926; M.D., Harvard, 1930; Int. in Surg., Surg. Pathologist, Ass't. Res. and Assoc. Res. in Surg., Strong Mem. Hosp., 1930-1934; Res. in Orth. and Assistant Orthopaedist, Duke Hospital, 1934-

## Everett I. Bugg, Jr., Instructor in Orthopaedics.

B.S;, Duke, 1935; M.D., Johns Hopkins, 1937; Int. in Surg., Duke Hosp., 1937-1938; Ass't. Res. and Res. in Orthop., Johns Hopkins Hosp., 1938-1941; 1946-
Julian E. Jacobs, Lecturer in Orthopaedics.
M.D., Nebraska, 1935; Ass't. Res. and Res. in Orthop., Duke Hosp., 1936-1938.

Charles Edwin Irwin, M.D., Lecturer in Orthopaedic Surgery.
M.D., Emory, 1932; Int., Piedmont Hosp., 1932-1933; Res., Georgia Warm Springs Foundation, 1933-1936; 1946-
Oscar Lee Miller, M.D.. Lecturer in Orthopaedic Surgery.
M.D., Emory, 1912; Int. and Res., Piedmont Hosp., 1912-1914; Res., Scottish Rite Hosp. for Crippled Children, 1915-1917; U. S. Army, 1917-1919; Assoc. Prof. of Orthopaedic Surgery, Emory' Univ., 1919-1921; Chief Surgeon, N. C. Orthopaedic Hosp., 1921-1932; Consulting Orthopaedic Surgeon, N. C. Orthopaedic Hospital, 1932; Attending Orthopaedic Surgeon, Charlotte Sanatorium, Mercy Hosp., 1923-1941; Chief, Div. of Orthopaedic Surgery, Charlotte Mem. Hosp., 1941; 1946-
W. M. Roberts, Lecturer in Orthopaedics.

Joseph Warren White, A.B., M.D., Lecturer in Orthopaedic Surgery.
A.B. and M.D., Harvard, 1913 and 1917; U. S. Naval Medical School, 1919; Res. in Orthopaedics, Carney Hosp., 1919-1920; Visiting Orthopaedic Surgeon, Mass. Gen. Hosp., 1923.1924; Chief, Orthopaedic Service, U. S. Naval Hosp., 1920-1924; Chief Surgeon, Shriners Hospitals, Honolulu, T. H., 1924-1927; Chief' Surgeon, Queen's Hospital, Honolulu, 1925-1927; Chief Surgeon, Shriners Hospital, Greenville, S. C., 1927; Chief, Orthopaedic Service, Greenville Gen. Hosp., 1927-; 1946 -
J. Leonard Goldner, A.B., M.D., Associate in Orthopaedics. A.B., Minn., 1939; M.D., Nehraska, 1943; Duke Hospital, 1943-

Robert L. Bennett, M.D., Lecturer in Physical Medicine.
B.S., U. of Pittsburgh, 1934; M.D.. 1936; M.S. in Physical Med., Mayo Foundation, U. of Minnesota, 1941; Int., Mercy Hosp., 1936-1937; Fetlow in Phys. Med., Mayo Foundation, 1937-1940; Ass't. Phys. Med., Mayo Clinic, 1939-1940; Ass't. Prof. Phys. Med., Georgia Warm Springs Foundation; Dir. Post-Graduate School, Georgia Warm Springs Foundation, 1941-1946; 1946-
Edwin Pascal Alyea, S.B., M.D., Professor of Urology.
S.B., Princeton, 1919 ; M.D.. Johns Hopkins, 1923; Int. in Med., Int. and Ass't. Res. in Surg.; Ass't. Res. and Res. in Urol., Johns Hopkins Hosp., 1923-1929; Ass't. and Instr. in Surg., and Instr. in Urol., Johns Hopkins Med. Sch., 1925-1929; Urologist. Duke Hospital, 1930-
John Essary Dees, B.S., M.D., Associate Professor of Urology.
B.S. and M.D., Virginia, 1930 and 1933; Int. and Ass't. Res., Johns Hopkins Hosp., 1933-1937, and Res. in Urol., Ancker Hosp., 1937-1938, and Johns Hopkins Hosp., 1938-1939; Assistant Urologist, Duke Hospital. 1939-
Louis Carroll Roberts, B.S., M.D., Instructor in Urology.
B.S., Davidson, 1930; M.D., Duke, 1933; Int. in Surg., Ass't. Res. in Path., Ass't. Res., and Res. in Urol., Duke Hosp., 1933.1940; Major, Med. Corps, U. S. Arıny, 1941 1945; Assistant Urologist, Duke Hospital, 1940-
Theonore W. Atwood, A.B., D.M.D., Associate in Dentistry.
A.B., Duke, 1928; D.M.D., Harvard, 1932; Int. in Dentistry, Johns Hopkins Hosp., 1932-1934; Dentist, Duke Hospital. 1931-

Norman F. Ross, D.D.S., Instructor in Dentistry.
D.D.S. Temple, 1937; Int. in Dentistry, Duke Hosp., 1937-1938; Major, U. S. Army Med. Corps, 1942-1946; Assistant Dentist, Duke Hospital, 1938-
Dorothy Waters Beard, R.N., Research Associate in Surgery.
R.N., Vanderbilt, 1929; Supervisor, Surg. Service, Vanderbilt Univ. Hosp., 1929-1931; Post-graduate Course in Surg., Charity Hosp., New Orleans, 1931-1932; 1938-
D. Gordon Sharpe, B.S., A.M., Ph.D., Assistant Professor of Biophysics in Experimental Surgery.
B.S., Rutgers, 1932; A.M. and Ph.D., Duke, 1937 and 1939; Research Physicist in x-ray and ultraviolet ray, Westinghouse Elec. \& Mfg. Co., Bloomfield, N. J., 1932-1936; Research Fellow in Physics, Duke Univ., and Fellow in Surg., Duke Med. Sch., 19361939; Biophysicist, Duke Hospital, 1939-
Ivan W. Brown, Jr., A.B., B.S., M.D., Associate in Surgery.
A.B., Univ. of Rochester, 1936; B.S., M.D., Duke, 1940; Ass't. Anat. and Physio., Duke, January 1940-July 1940; Int. and Ass't. Res., Path., Duke, 1940-1942; Capt., U. S. Army Med. Corps, 1942-1945; Ass't. Res. and Instr., Surg., Duke, 1945-1948; Dir., Blood Bank, Duke, 1946-; Markle Scholar in Med. Sci., 1948-; Assoc. Med. Dir. (Part-time), Nat'l Blood Prog., Amer. Nat'l Red Cross, 1948-1949; Consultant, Nat'l Blood Prog., 1949-; Associate in Surgery, Duke, 1945-

Horace W. Baker, Jr., A.B., M.D., Instructor in Surgery. A.B., Univ. of No. Car., 1941; M.D., Duke, 1944.

John P. Collins, A.B., M.D., Instructor in Surgery. A.B., M.D., Duke, 1941, 1944.

Alfred N. Costner, B.S., M.D., Instructor in Ophthalmology.
B.S., Univ. North Carolina, 1940; M.D., Washington Univ., 1943; Duke Hospital, 1943-

James D. Moody, A.B., M.D., Instructor in Surgery. A.B., M.D., Duke, 1941, 1945.

William W. Shingleton, A.B., M.D., Instructor in Surgery. -A.B., Atlantic Christian College, 1939; M.D., Bowman Gray, 1943.
Allen D. Puppel. A.B., M.D., Associate in Urology. A.B., M.D., Ohio State Univ., 1936, 1940.

## Fellows

John P. Adams (Orthopaedics),* B.S., Univ. of Mo., 1943; M.D., Washington Univ., 1945.
R. H... Belser (Orthopaedics),* B.S., Citadel, 1942; M.D., Duke, 1946.

John S. Campbell (Orthopaedics),* A.B., Mich., 1939; M.D., Duke, 1943.
Raphael W. Coonrad (Orthopaedics),* M.D., Duke, 1947.
Richard H. Corales, Jr., B.S., M.D., Tulane Univ., 1938, 1942. Damon Runyon Fellow in Neurosurgery.
Darius Flinch um (Orthopaedics),* B.S., Hampden-Sydney Col1., 1941; M.D., Univ. of Va., 1944.
Herman A. Gailey (Orthopaedics),* A.B., Lafayette Coll., 1943; M.D., Johns Hopkins, 1946.
Richard Kendrick (Orthopaedics),* A.B., M.D., Stanford, 1942, 1945.
Leslie C. Meyer (Orthopaedics),* A.B., B.S., M.D., Univ. of Nebr., 1940, 1943.

Paul C. Thompson (Orthopaedics),* A.B., M.D., Duke, 1942, 1945.
W. Barron Withers (Orthopaedics),* M.D., Duke, 1945.

* Fellows of the National Foundation for Infantile Paralysis.

Frank R. Wrenn, Jr., A.B., M.D., Duke, 1943, 1946; Atomic Energy Commission Fellow.
Richard S. Yeh (Plastic), B.S., M.D., Aurora Univ., Shanghai, China, 1942, 1946.

Cabell Young, Jr. (Orthopaedics),* B.S., M.D., Duke, 1939, 1943.
W. Glenn Young, Jr., M.D., Duke, 1947.

Casimar Zarzecki (Orthopaedics),* A.B.. M.D., Mich., 1940, 1944.

## Graduate Students (House Staff)

Residents and Assistant Residents
Byron M. Bloor (Neurosurgery), B.S., Univ. of Idaho, 1942; M.D., Duke, 1945.

John C. Bonill, B.S., Mich., 1939 ; M.D., Wayne, 1943.
Thomas R. Broadbent, A.B., Brigham Young, 1943; M.D., Duke, 1945.
Gordon Carver, A.B., M.D., Duke, 1941, 1948.
Arthur B. Cecil, A.B., Harvard, 1937 ; M.D., Johns Hopkins, 1942.
Richard G. Connar, A.B., M.D., Duke, 1941, 1944.
Courtland H. Davis, Jr. (Neurosurgery), B.A., Geo. Washington Univ., 1941; M.D., Univ. of Va., 1944.

Marcus L. Dillon, Jr., M.D., Duke, 1947.
Henry M. Dratz (Neurosurgery), M.D., Duke, 1944.
Benjamin F. Edwards (Plastic), A.B., M.D., Geo. Washington Univ., 1943.
John R. Emlet, A.B., Dickinson, 1942; M.D., Duke, 1946.
Tom B. Ferguson, M.D., Duke, 1945.
Robert A. Gowdy, B.S., Davidson, 1943; M.D., Duke, 1947.
Robert J. Hagerty, A.B., Harvard, 1939; M.D., Johns Hopkins, 1943.
William C. Haggerty, M.D., Duke, 1948.
George J. Hayes (Neurosurgery), B.S., Catholic Univ., 1940; M.D., Johns Hopkins, 1943.
Jerome M. Jater (Neurosurgery), B.S., M.D., Duke, 1947.
Eugene J. Linberg, A.B., M.D., Duke, 1944, 1947.
Robert O. Lipe (Urology), M.D., Duke, 1947.
Robert F. Lorenzen (Ophthalmology and Otolaryngology), B.S., M.D., Duke, 1944, 1948.
George H. McSwain, A.B., M.D., Vanderbilt, 1938, 1941.
Frederick K. Schmidt (Urology), M.D., Duke, 1944.
Charles Stauffer (Urology), A.B., M.D., Duke, 1937, 1941.
Silas O. Thorne, Jr. (Ophthalmology and Otolaryngology), B.S., M.D., Duke, 1943, 1946.
N. John Wilde (Plastic), B.S., D.D.S., M.D., Univ. of Ill., 1939, 1940, 1943. Robert C. Wulfman (Anesthesiology), M.D., Duke, 1945.

* Fellows of the National Foundation for Infantile Paralysis.


## Interns

William G. Anlyan, B.S., M.D., Yale Univ., 1945, 1949; 7/1/49—
Craig P. Bade (Ophthalmology and Otolaryngology), B.S., Univ. of Ala., 1946; M.D., Ala. Med. Coll., 1950; 7/1/50-
Carey N. Barry, B.S., Univ. of Fla., 1941 ; M.D., Duke, 1948; 7/1/49—
William C. Battle, M.D., Duke, 1949; 7/1/49-
Arnold E. Botwin, B.S., Univ. of Mo., 1946; M.D., Harvard Univ., 1948 : 7/1/49
William A. Boucher, M.D., Duke, $1950 ; 1 / 1 / 50-$
Saul Boyarsky, B.S., M.D., Univ. of Vermont, 1943, 1946; 7/1/50-
Robert S. Caldwell, M.D., Univ. of Va., 1950; 7/1/50-
Alpheus M. Covington, B.S., Wofford Coll., 1940; M.D., Duke, 1950: 7/1/50—
Robert D. Crouch, M.D., Med. Coll. of South Car., 1948; 7/1/50—
Daniel W. Davis, Jr., B.S., The Citadel, 1945 ; M.D., Duke, 1949; 7/1/49— Benjamin H. Flowe, M.D., Duke, 1949; 7/1/49-
George D. Gaddy (Opthalmology and Otolaryngology), B.S., Univ. of So. Car., 1944; M.D., Univ. of Ga.. 1949 ; 7/1/50-
Nicholas G. Georgiade, D.D.S., Columbia Univ. Coll. of Phys. \& Surg., 1944 ; M.D., Duke, 1950; 1/1/50-

Frederick W. Glass, B.S., Wake Forest Coll., 1946; M.D., Bowman Gray, 1950; 7/1/50—
James A. Harris, M.D., Duke, 1950; 7/1/50—
Thomas C. Kerns, Jr. (Ophthalmology and Otolaryngology), A.B., Univ. of N. C., 1946; M.D., Duke, 1950; 1/1/50-

John D. Keye, M.D., Duke, 1950; 1/1/50-
Charles P. Lewis, Jr. (Ophthalmology and Otolaryngology); B.S., Washington and Lee, $19+0$; M.D., Duke, $1950 ; 1 / 1 / 50-$
Daniel A. Mairs, M.D., Duke, $1950 ; 1 / 1 / 50-$
Ernest T. Newell, M.D., Duke, $1950 ; 7 / 1 / 50-$
Francis G. Reilly, B.A., Dartmouth Coll., 1943; M.D., Yale, 1946; 7/1/49-
Charles R. Rowe, Jr., B.S., Univ. of N. C., 1945 ; M.D., Vanderbilt U., 1950 ; 7/1/50—
Jack Harold Seltsam, B.S., D.D.S., Western Res. Univ., 1943, 1944; M.D.. Northwestern Univ., 1948; 7/1/49-
Chester J. Semel, A.B., M.D., Columbia Coll., 1945, 1948; 7/1/49-
Barney F. Timmons (Ophthalmology and Otolaryngology), B.S., Univ. of S. C., 1942 ; M.D., Med. Coll. of S. C., 1945 ; 7/1/49-

Basil L. Truscott, M.A., Syracuse, 1940 ; M.S., Ph.D., M.D., Yale, 1942, 1943. 1950; 7/1/50—
Hugh C. Williams, M.D., Univ. of Pa., 1949; 7/1/49-
General Surgery. In the sixth quarter the students, during their course in physical diagnosis, attend clinics and demonstrations arranged to familiarize them with the techniques of examinations and diagnostic
procedures used in general surgery and the surgical specialties. They also have the opportunity in this quarter to become familiar with certain basic principles in aseptic and atraumatic surgery and in isolation technique. The junior students, during their surgical quarter, attend ward rounds in surgery and the surgical specialties, act as clinical clerks on the wards and assist in the operative treatment of patients assigned to them. The surgical students in the senior year attend ward rounds in general surgery and the surgical specialties in the mornings and assist in the surgical out-patient clinics in the afternoon. Also in groups of two for the proportionate time available they are assigned to the emergency division of the out-patient clinic where they assist in the diagnosis and care of urgent conditions.

A six days' concentrated course of training in the administration of anesthetic agents is open to twenty-four medical students each school quarter. Properly qualified students observe and administer anesthesia under direct supervision of staff anesthetists.

Otolaryngological Division. An introductory course of instruction in the use of otolaryngological instruments, with a review of normal anatomy, is given to second-year students in the sixth quarter. Clinics during one quarter of alternating years are given to junior and senior students; students during their pediatric quarter work in the otolaryngological outpatient clinic as assigned. Ward rounds are held separately each week for third- and fourth-year students. Patients are assigned to junior students during the surgical quarter.

Ophthalmological Division. During the sixth quarter second-year students receive instruction in elementary ophthalmology. During the senior pediatric quarter the students work in the ophthalmological out-patient clinic as assigned, and assist in the study and treatment of eye diseases. Especial emphasis is placed on the underlying medical and surgical conditions. Each student follows throughout his time in the out-patient clinic all patients assigned to him. For those who manifest an unusual interest in this specialty, provision will be made for more advanced work. Throughout the senior surgical quarter the students attend ophthalmological ward rounds for one hour each week. During either their third or fourth academic year clinics covering the more general neuro-ophthalmological and medical problems are given.

Orthopaedic Division. In the sixth quarter an introductory course is given. During the surgical quarters the junior and senior students attend weekly ward rounds of one hour each in orthopaedics and fractures. Amphitheater clinics are held every third quarter. Students in their senior surgical quarter are assigned in rotation to the orthopaedic out-patient clinic. These students also attend orthopaedic staff rounds at 5:30 P.M. Mondays through Fridays. An elective course in the treatment of fractures, limited to three students, is offered during the junior and senior surgical quarters. An elective course in physical therapy is also offered during these quarters. Arrangements may be made for students who so
desire to do research or experimental work. They may also attend the state orthopaedic clinics as held.

Urologic Division. In the sixth quarter, second-year students are given a course of lectures and practical demonstrations in urologic physical diagnosis in the normal individual student. Ward rounds on urologic patients are given every Saturday at 8:30 A.M. for third- and fourth-year students in their surgical quarter. Small groups are selected from the senior surgical group of students and assigned in rotation to the urologic out-patient clinic. During one quarter of the year, urologic clinics are given weekly for the junior and senior classes. These clinics deal with the affections of the male and female urinary tract and of the male genital tract. Clinics for urethroscopic and cystoscopic investigation and for the more technical methods of urologic diagnosis and treatment are held Monday, Wednesday, and Thursday from 1:30 to 5:00 P.M. and Tuesdays and Thursdays from 9:30 A.M. to 12:30 P.M. throughout the year. X-ray conferences on all urologic cases are held Tuesday, Thursday, and Saturday mornings from $8: 30$ to $9: 30$ and are followed by staff rounds. Three senior students may select one of these cystoscopic clinics, x-ray conferences, and staff rounds as an elective. The Urologic Journal Club meets each Monday from $4: 30$ to 6:30 P.M., and members of the staff review their respectively assigned journals. Interested students are welcome.

Neurosurgical Division. During all four quarters, separate weekly ward rounds are held for the junior and senior surgical groups. Emphasis in these rounds is placed upon the recognition of neurosurgical problems, followed by observation of the operative and post-operative procedures. Weekly x-ray and pathological conferences are held, and these may be attended by interested individuals.

Division of Plastic Surgery. Weekly ward rounds are given to familiarize both third- and fourth-year students with the principles and practice of plastic and oral surgery. Ward patients are assigned to the third-year surgical students and the fourth-year surgical students work up patients in the out-patient clinic. Each Tuesday and Thursday afternoon, an opportunity is afforded interested students to observe moulage and cast work, cosmetic restoration of color, the making of prosthetic appliances, etc. This work is done under the direction of Mr. Elon H. Clark, of the Department of Medical Illustration.

Dizision of Thoracic Surgery. During the academic year ward rounds, lectures and demonstrations are held to acquaint the third- and fourth-year students with the principles and practice of surgery of the chest. The anatomy and physiology of the respiration and circulation are reviewed and their application to thoracic surgery is stressed. X-ray diagnosis is emphasized and frequent pathology conferences are held to give the students a well-rounded knowledge of the surgical diseases of the chest.

Dizision of Anesthesiology: Junior students, during their surgical quarter, are given a series of eleven lectures by the medical anesthesiologists. Following a brief history of anesthetic drugs, the response of the
body to such drugs is discussed. The physiological basis of the reactions encountered in the operating room is stressed and the rational for choice of agents for various patients is presented. A six days' concentrated course of training in the administration of anesthetic agents is open to twenty-four senior medical students each school quarter. These students observe and administer anesthetics under the supervision of staff anesthetists, see page 59 .

Dentistry. Second-year students, in the sixth quarter, are instructed in the principles of dentistry.

## Radiology

Robert James Reeves, A.B., M.D., Professor of Radiology and Chairman of the Department.
A.B. and M.D., Baylor, 1920 and 1924; Int., Baylor Hosp., 1924-1925; Res. in Roentgenol., Mass. Gen'1. Hosp., 1925-1926; Ass't. Attending Phys, in Roent. Ray Dept.. Presbyterian Hosp., and Med. Center. N. Y., 1926-1930; Instr. in Med., Columbia Med. Sch., 1925-1930; Radiologist, Duke Hospital, 1930-
George Jay Baylin, A.B., M.D., Associate Professor of Radiology and Associate in Anatomy.
A.B., Johns. Hopkins, 1932; M.D., Duke, 1937; Ass't. in Anat., Duke Med. Sch., 19341937'; Int. in Surg., Sinai Hosp., Balto., 1937-1938; Voluntary Ass't. in Path., Guy's Hosp., London, Sept., 1938-Feb., 1939; Instr. in Anat., Duke Med. Sch., Ass't. Res., and Res. in Rad., and Associate Radiologist, Duke Hospital, 1939-
John C. Glenn, A.B., M.D., Assistant Professor of Radiology.
A.B., Central College, 1940; M.D., Duke, 1943; Int. Surg., Duke, 1944; Ass't. Res. and Res. in Rad., Duke, 1944-1946; U. S. Navy (Lt. jg.), MC, USNR, 1946-1944; Instr. in Rad. in Charge of Radiation Therapy, Johns Hopkins Hosp., 1948-1949; Assistant Radiologist, Duke Hospital, 1949-
John B. Cahoon, Jr., R.T., A.S.X.T., Technical Instructor.
Herman L. Hassell, R.T., Technical Instructor.

## Graduate Students (House Staff) <br> Residents and Instructors in Radiology

'Гhomas L. Martin, A.B., Washington and Lee, 1941; M.D., Duke, 1944.

## Assistant Residents and Assistants in Radiology

Lowell S. Miller, B.S., M.D., Duke, 1945.
Ira E. Bell, B.S., Western Kentucky Univ., 1942; M.D., Univ. of Ga., 1945. Albert L. Allen, A.B., M.D., Med. Coll. of S. C, 1933.
John E. Wear, A.B., Univ. of Ala., 1942; M.D., Northwestern, 1945.
Robert L. Pedersen, B.S., M.D., Univ. of Minn., 1943, 1946.
Aubrey P. Hornsby, B.S., Univ. of Ala., 1941 ; M.D., Columbia Univ., 1946. Robert L. Pinck, A.B., Washington and Lee, 1942; M.D., Duke, 1946.
Allen Taylor, B.S., M.D., Duke, 1943, 1947.
Robert S. Kibler, A.B., M.D., Univ. of Colo., 1938, 1941.
The student teaching schedule in roentgenology consists of a course in roentgen diagnosis and a course in therapeutic radiology. The first is offered during each scholastic quarter on Tuesday and Thursday of each week. The fundamental physics of x-ray is discussed, with the chief
emphasis being placed upon the anatomical, pathological and physiological bases for the interpretation of x-ray films. The course is conducted in seminar fashion and no formal lectures are given. The students participate in and lead discussions with the instructor serving as the moderator. An attempt is made to acquaint the student with the aids of roentgenology in diagnostic problems. The correct use of x-rays in diagnosis is stressed.

Therapeutic radiology is given one hour weekly during each quarter. At these sessions the general problem of the treatment of benign, inflammatory and malignant lesions by x-ray and radium is discussed and the accepted views of the combination of these therapeutic agents with surgery is stressed. Representative cases are demonstrated, and the fol-low-up results are particularly stressed.

A limited number of senior students are permitted to attend routine film reading sessions in the Department of Radiology. They are also instructed in the fundamentals of fluoroscopic examinations and shown the many pitfalls of the inexperienced fluoroscopist.

A number of conferences with the resident house staff are conducted throughout the year. Each alternate Monday from 8:30 to 9:30 A.M. a session with the ear, nose and throat staff is held, during which the roentgen and operative findings are correlated. Each Thursday from $8: 30$ to $9: 30$ A.M. a pediatric conference is held at which current cases are discussed and clinical and x-ray findings are given. On alternate Wednesdays from 5:00 to 6:00 P.M. conferences are held with the surgical and medical house staffs and all cases with significant x-rays are presented for general discussion. The neurosurgical staff meets with members of the x-ray department every other Tuesday afternoon from $4: 00$ to $5: 00$ P.M. for a discussion of all cases that have been studied by the two departments.

Each Thursday afternoon the conference is held by the members of the x-ray staff and visiting radiologists. Difficult cases are brought up for discussion and diagnosis.

## Obstetrics and Gynecology

Bayard Carter, A.B., B.A., M.A., M.D., Professor of Obstetrics and Gynecology and Chairman of the Department.
A.B., Delaware, 1920; B.A. and M.A., Oxford, 1923 and 1924; M.D., Johns Hopkins, 1925; Member Obs. and Gyn. Staff of New Haven Hosp. and Yale Med. Sch., 19251929; Assoc. Prof. Obs. and Gyn., and Head of Dept., Univ. of Va. Med. Sch., $1929-$ 1931; Obstetrician and Gynecologist, Duke Hospital, 1931-

Edwin Crowell Hamblen, B.S., M.D., Associate Professor of Obstetrics and Gynecology and Professor of Endocrinology.
B.S. and M.D., Virginia, 1921 and 1928; Ass't. and Instr. in Pharmacol. and Materia Medica, Baylor Med. Coll., 1922-1926; Int. and Res., Obs. and Gyn., Univ. of Va.
Hosp., 1928-1930; Clin. Instr, in Obs. and Gyn., Úniv. of Va. Med. Dept., 19301931; Associate Obstetrician and Gynecologist; and Endocrinologist, Duke Hospital, 1931-
Robert Alexander Ross, B.S., M.D., Associate Professor of Obstetrics and Gynecology.
B.S., North Carolina, 1920; M.D., Pennsylvania, 1922; Res. Physician, Univ. of Pa. Settlement House, 1921-1922; Int., Episcopal Hosp., Phila., 1922-1924; Int. and Res..

Kensington Hosp. for Women, 1923-1925; Comdr., Med. Corps, U. S. Navy, 1942-1945; -4ssociate Obstctrician and Gynccologist, Dukc Hospital, 1930-

Walter Lee Thomas, Jr., A.B., A.M., M.D., Associate Professor of Obstetrics and Gynecology.
A.B., Lynchburg, 1926; A.M. and M.D., Virginia, 1927 and 1931; Int., Virginia-Mason Hosp., 1931-1932; Ass't. Res. and Res. in Obs. and Gyn., Duke Hosp., 1932-1935: Assistant Obstetrician and Gynecologist, Henry Ford Hosp., Detroit, 1936.1937; Ass't. Obstetrician and Gynecologist, Duke Hosp., 1937-1942; Major, Med. Corps, 65th (U. S.) Gen. Hosp., 1942-1945; Assistant Obstetrician and Gynecologist, Duke Hospital, 1945 -

Marin Pierce Rucker, A.M., M.D., LL.D., Lecturer in Obstetrics and Gynecology.
A.B., A.M., and LL.D., Randolph-Macon. 1899 and 1938; M.D. Johns Hopkins, 1903; N. Y. Lying-In Hosp.; Demonstrator in Physiol., Pharmacol., Histol., Path., Embryol. and Obs., and Assoc. in Obs., and Assoc. Prof. of Obs., Med. Coll. of Va., 1903-1930; Obstetrician, Johnson-Willis Hosp., Richmond, Va., 1930; 1941-
Robert Nowell Creadick, A.B., M.D., Assistant Professor of Obstetrics and Gynccology.
A.B., Wesleyan Univ., 1933; M.D., Yale, 1937; Int., Hartford Hosp., 1937-1939; Ass't. Res. and Res., Duke Hosp., 1939-1943; Major, Med. Corps. U. S. Army, 1943-1946; Chief, Ob. Section, Walter Reed Gen. Hosp., 1945-1946; 1946-

Violet Horner Turner, B.A., M.D., Instructor in Obstetrics and Gynecology. B.A., Univ. Hawaii, 1936; M.D., Univ. Chicago, 1940; Int., Rotat., Cincinnati General, 1940-1941; Ass't. Res., Endocrine, Duke Hospital, 1941; Int., Obstetrics, 1942, LyingIn Hosp., Chicago; Ass't. Res., Endocrine, Duke, 1943; Ass't. Res., Ob.-Gyn., 19431944; Res., 1944-1945; Instructor.
Eleanor Beamer Easlet, B.A., M.A., M.D., Associate in Obstetrics and Gynecology.
B.A., Idaho, 1928; M.A., Iowa, 1929; M.D., Duke, 1934; Int. and Ass't. Res. in Med., and Int., Ass't. Res.. and Res. in Obstetrics and Gynecology, and Assistant Obstetrician and Gynccologist, Duke Hospital, 1934-

William A. Graham, Instructor in Obstetrics and Gynccology.
M.D., Univ. of Pa., 1932; Int., Union Mem. Hosp., 1932-1933; Int., Royal Victorıa Hospital, 1933-1934; Res., Woman's Hosp., 1934-1937; 1938-

Trogler F. Adkins, Instructor in Obstetrics and Gynecology.
M.D., Duke, 1936; Int. in Surg., Duke, 1936-1937; Int., Ass't. Res., and Res. in Ob. and Gyn., and Assistant Obstctrician and Gyuccologist, Duke Hospital, 1938-

Richard L. Pearse, M.D., Instructor in Obstetrics and Gynecology.
M.D., Harvard, 1931; House Officer, Free Hosp. for Women. 1931; Int., Mass. Gen. Hosp., 1932-1934; Ass't. Res., Providence Lying.In Hosp., 1935; Ass't. Res. and Res. in Ob. and Gyn., Duke Hospital, 1935-1938; 1938-

Kenneth A. Podger, A.B., M.D., Instructor in Obstetrics and Gynecology. A.B., M.D., Duke, 1937 and 1941; Int. and Ass't. Res. in Med., Duke, 1941-1942: Lt., Med. Corps, U. S. Navy, 1942-1945; Ass't. Res. and Res., Duke, 1946-1948; 1946 -
W. Kenneth Cuyler, B.A., M.A.. Ph.D., Research Instructor in Obstetrics and Gynccologic Laboratory Technics.
B.A., Texas, 1923; M.A. Western Reserve, 1929; Ph.D., Duke, 1941; Dir. of Clin. Lab., Dept. of Endocrinol. and Metabolism, Cleveland Clinics, 1929-1938; 1938-
C. P. Jones, Technical Rescarch Instructor in Obstetrics and Gynecology.

## Fellows

Mohamad Aziz Seraj (Obstetrics and Pediatrics), M.D., Ali-Abad Unir-, Kabul, Afghanistan, 1942.

Alberto Viau (Endocrinology).

Howard C. Duckett, Jr., A.B., M.D., Duke, 1941, 1944.
Walter S. Easterling, B.S., M.D., Univ. of Ark., 1946, 1947.
James M. Ingram, Jr., M.D., Duke, 1943.
J. F. Kelsey, A.B., M.D., Univ. of Kansas, 1944, 1947.

Leonard Palumbo, M.D., Duke, 1944.
Roy T. Parker, A.B., Univ. of No. Car., 1941 ; M.D., Med. Coll. of Va., 1944.
Charles H. Peete, Jr., M.D., Harvard, 1947.
William A Peters, Jr., A.B., M.D., Duke, 1939, 1943.
Benjamin J. Philips, B.S., Davidson, 1942; M.D., Duke, 1945.
Clarence L. Ruffin, A.B., Univ. of No. Car., 1942 ; M.D., Duke, 1945.
Walter L. Widmark, A.B., M.D., Duke, 1938, 1941.
Lester A. Wilson, Jr., B.S., William and Mary, 1938; M.D., Med. Coll. of So. Car., 1942.
James T. Wortham, A.A., N. C. State A. \& M. Coll., 1943 ; B.S., M.D., Univ. of Ark., 1945, 1947.

## Interns

John V. Arey, A.B., Univ. of N. C., 1942 ; M.D., Harvard, 1946.
John R. Ashe, Jr., B.S., Davidson, 1944 ; M.D., Duke, 1947.
Walter L. Davis, M.D., Columbia, 1947.
Frederick W. Dick, B.S., M.D., Duke, 1942, 1949.
William R. Kerr, M.D., Tulane, 1947.
Second-y'ear students receive seventeen hours of instruction in the fundamentals of obstetrics and gynecology during their course in physical diagnosis in the sixth quarter. Clinics and demonstrations for junior and senior students are held on Saturdays at $10: 30$ A.M. during the Autumn, Winter, and Spring Quarters and on Mondays at $11: 30$ A.M. in the Summer Quarter. During one quarter of the junior year each group of students attends ward rounds at 8:30 A.M. on Mondays, Wednesdays, and Saturdays; preoperative conferences at 8:30 A.M. on Tuesdays and Fridays; and the out-patient clinic at $1: 30$ P.M. five times weekly, for nine weeks. They also attend an endocrine clinic once a week for nine weeks during the junior year. The students also spend part of each day on the wards. Senior students, during their surgical quarter, have ward rounds on obstetrics and gynecology on Saturdays at 8:30 A.M.

Elective courses in the diagnosis and treatment of obstetric and gynecological conditions are offered for junior and senior students.

## Pediatrics

Wilburt Cornell Davison, A.B., B.A., B.Sc., M.A., M.D., D.Sc., Ll.D., Dean of the School of Medicine and Professor of Pediatrics.
A.B., Princeton, 1913; B.A., B.Sc., and M.A., Oxford, 1915. 1916, and 1919; M.D., Johns Hopkins, 1917 ; D.Sc., Wake Forest, 1932; LL.D.. North Carolina, 1944; Int., Radcliffe Infirmary, 1915-1916; Capt., Med. Corps, A.E.F., 1917-1919; Ass't. Res.,

Assoc. Ped., Acting Pediatrician in Charge, Johns Hopkins Hosp., 1919-1927; Instr., Assoc., Assoc. Prof., Acting Head of Dept. of Ped., and Ass't. Dean, Johns Hopkins Med. Sch., 1919-1927; Pediatrician, Duke Hospital, 1927-

Jerome Sylvan Harris, A.B., M.D., Professor of Pediatrics and Associate Professor of Biochemistry:
A.B., Dartmouth, 1929; M.D., Harvard, 1933; Med. House Officer, House of Good Samaritan, Boston, Oct., 1933-Jan., 1934; Int. in Med., Univ. of Chicago Clinics, 1934 1935; Int., Infants and Children's Hosp., Boston, 1935.1936; Ass't. Res. and Assistant Pediatrician, Duke Hosp., 1936-1942; Lt. Col., Med. Corps, U. S. Army, 1942-1945; Assistant Pediatrician, Duke Hospital, 1936-
Angus McBryde, B.S., M.D., Associate Professor of Pediatrics.
B.S., Davidson, 1924; M.D., Pennsylvania, 1928; Int. and Res. in Ped., Univ. of Pa. Hosp., 1928-1930; Ass't. Res. in Ped., Johns Hopkins Hosp. and Ass't. in Ped., Johns Hopkins Med. Sch., 1930-1931; Assistant Pediatrician, Duke Hospital, 1931-
*Harvey Grant Taylor, A.B., A.M., M.D., Associate Professor of Pediatrics and Bacteriology, and Associate Dean.
A.B., San Jose State, 1928; A.M., Stanford, 1929; M.D., Duke, 1940; Int. in Ped., Duke Hosp., 1940-1941; Ass't. Res. and Res. in Ped., Alfred I. duPont Instit., Nemours Found., Wilmington. Del., 1941-1943; Lt. Col., Med. Corps, U. S. Army, 1943-1946; Assistant Pediatrician, Duke Hospital, 1940-

Jay Morris Arena, B.S., M.D., Assistant Professor of Pediatrics.
B.S., West Virginia, 1930; M.D., Duke, 1932; Int. in Ped., Johns Hopkins Hosp., 1932-1933; Ass't. Res., Res., and Assistant Pediatrician, Duke Hospital, 1933-
Susan Coons Dees, A.B., M.S., M.D., Assistant Professor of Pediatrics. A.B., Goucher, 1930; M.D., Johns Hopkins, 1934; M.S., Minnesota, 1938; Int., Johns Hopkins Hosp., 1934-1935, and Ass't. Res. in Med., Strong. Mem. Hosp., 1935-1936; Int. in Path., Balto. City Hosps., and Ass't. Johns Hopkins Protein Clinic, 1936 1937; Research Fellow in Ped., Univ. of Minnesota Hosp., 1937-1938; Ass't. Disp. Physician, Johns Hopkins Hosp., 1938-1939; Assistant Pediatrician, Duke Hospital. 1939-

Arthur Hill London, Jr., B.S., M.D., Associate in Pediatrics.
B.S., North Carolina, 1925; M.D., Pennsylvania, 1927; Int., Rotat., Methodist Episcopal Hosp., Phila., 1927-1928; Ass't. Res. in Ped., Children's IIosp., Cincinnati, 1928-1929; Chief Res., Children's Hosp., Phila., and Instr. in Ped., Pennsylvania Med. Sch., 19291930; Assistant Pediatrician, Duke Hospital, 1932-

Harry Barron O'Rear, A.B., M.D., Associate in Pediatrics.
A.B., U. of Ala., 1941; M.D., U. of Pa., 1943; Rot. Int., Watts Hosp., 1944; Capt., Med. Corps Army of U. S., 1944-1946; Int., Ass't. Res. and Res., Duke, 1946-1949; 1946-

Paul Franklin Maness, A.B., M.D., Instructor in Pediatrics.
A.B., M.D., Duke, 1936, 1940; Rot. Int., Grady Hosp., 1940-1941; Ass't. Res., Steiner Clinic, 1941-1942; Lt. Cmdr., Med. Corps, Navy of U. S., 1942-1947; Ass't. Res., Ped., Duke, 1947-1949; 1947-
George Wallace Kernodle, A.B., M.D., Instructor in Pediatrics.
A.B., Elon Coll., 1941 ; M.D., Duke, 1944; Int., Ped., 1945; Ass't. Res., Ped., Children's Hosp., Cincinnati, O., 1945-1946; Ass't. Res., Ped., Duke, 1946.1947; 1946-

Bailey Daniel Webb, A.B., M.S., Ph.D., M.D., Instructor in Pediatrics. A.B., Greensboro Coll., 1933; M.S., Ph.D., U. North Carolina, 1939, 1941; M.D., Duke, 1946; Biochemist Coop. Nutritional Study, N. C. Bd. of Hith. and Rockefeller Fdtn., 1941-1944; Int., Ass't. Res., Ped., St. Louis Children's Hosp., 1946-1949; 1949-

Atala Thayer Scudder Davison, A.B., M.D.. Instructor in Pediatrics. A.B., Bryn Mawr, 1915; M.D., Johns Hopkins, 1920; Ass't. in Bact., Am. Red Cross. A.E.F., 1917-1918; Assistant Pediatrician, Duke Hospital, 1942-

Benjamin Smith Skinner, Instructor in Pediatrics.
B.S., North Carolina, 1937; M.D., Washington, 1940; Int., Ped., St. Louis Children's Hosp., 1940-1941; Int. and Ass't. Res., Med., Duke, 1941-1942; Ass't. Res., Ped., St. Louis Children's Hosp., 1942-1944; Capt., Med. Corps, U. S. Army, 1944-1946; 1946* On leave, 1950-1951.

Eleanor Jane Herring Wooten, Instructor in Pediatrics.
A.B., Greensboro, 1939; M.D., Duke, 1943; Int., Ped., Mass. Gen. Hosp., 1943; Int., Ped., Duke, 1943-1944; Ass't. Res., Ped., Mass. Gen. Hosp., 1944; Ass't. Res., Ped.,
Vanderbilt, 1944-1945; Ass't. Res., Ped., Los Angeles Children's Hosp., 1945-1946; 1946-

Mildred M. Sherwood, R.N., Instructor in Pediatrics, 1930-

## Graduate Students (House Staff) <br> Residents and Assistant Residents (Pediatrics)

Gayle G. Arnold, A.B., Johns Hopkins, 1942; M.D., U. of Md., 1945; 7/1/496/30/50.
Annie M. Bestebreurtje, B.S., Zurich, 1938; M.D., Johns Hopkins, 1943 ; 7/1/47-6/30/50.
Norman H. Blatt, M.D., Cinn., 1947; 7/1/48-2/1/49.
Roger B. Воst. M.D., Ark., 1945 ; 7/1/48-6/30/50.
Sol Browdy, B.A., Temple U., 1940; M.D., Bowman Gray, 1946; 7/1/496/30/50.
Harry D. Cox, B.S., William and Mary, 1943; M.D., U. of Va., 1946; 7/1/49—
William J. A. Demaria, B.S., U. of Conn., 1944 ; M.D., Duke, 1948; 1/1/49—
Frederick T. Eastwood, M.D., Temple, 1944 ; 7/1/48-6/30/50.
William W. Farley, B.A., U. of Richmond, 1940; M.D., Med. Coll. of Va., 1943; 1/1/49—
William P. Hadley, M.D., Duke, 1947 ; 7/1/50-
Victor B. Hollowell, A.B., U. of No. Car., 1942; M.D., Harvard, 1946; 7/1/49-2/28/50.
George C. Hopkins, M.D., Temple U., 1946; 7/1/49-
J. Kemptox Jones, A.B., M.D., Duke, 1943, 1946; 8/1/49-6/30/50.

Seymour R. Kaplan, M.D., Duke, 1945; 7/1/48-9/15/49.
William F. O'Connell, A.B., Brown U., 1942; M.D., Yale, 1945; 7/1/496/30/50.
Mary L. Rutledge, B.S., M.A., Furman U., 1937, 1938 ; M.D., Temple, 1948 ; 7/1/50-
Raymond E. Schipke, A.B., Colgate U., 1943; M.D., N. Y. Med. Coll., 1946; 7/1/49—
Henry R. Shinefield, A.B., M.D., Columbia Coll., 1944, 1948; 7/1/496/30/50.
Olin G. Shivers, Jr., M.D., Cornell, 1948; 7/1/49-
Benjamin O. Stands, B.S., M.D., Indiana, 1945 ; 7/1/48-6/30/50.
Louis C. Zang, Jr., M.D., Baylor, 1946; 7/1/49-
George A. Zirkle, Jr., B.S., Va. Polytechnic Inst., 1942 ; M.D., Med. Coll. of Va., 1945 ; 5/1/49-4/30/50.

## Interns (Pediatrics)

Alexander S. Fitzhugh, Jr., M.D.. U. of Ark., 1948; 7/1/50-
William D. Furst, M.D., Duke, 1949; 7/1/49-6/30/50.
Edward P. Kingsbury, Jr., M.D., Duke, 1948; 4/1/49-6/30/50.

William Lies, III, M.D., Duke, 1947; 7/1/49-6/30/50.
Edgar E. McCanless, A.B., Duke, 1945; M.D., U. of Pa., 1949; 7/1/50-
James L. Morgan, M.D., Duke, 1949; 7/1/49-6/30/50.
William R. Rippy, M.D., Duke, 1950; 1/1/50-6/30/50.
Paul M. Sarazen, Jr., B.S., M.D., Duke, 1944, 1948; 7/1/50—
Charles F. Seymour, B.S., U. of Fla., 1940; M.D., Duke, 1950 ; 1/1/50-
Margaret P. Sullivan, B.A., Rice Inst., 1944 ; M.D., Duke, $1950 ; 7 / 1 / 50-$
Thomas E. Walker, A.B., Davidson Coll., 1939; M.A., M.S., U. of No. Car., 1941, 1942; M.D., Harvard, 1950; 7/1/50-

## Interns (Obstetrics-Pediatrics)

Graham A. Barden, Jr., A.B., Va. Mil. Inst., 1943; M.D., Duke, 1948; 7/1/49-6/30/50.
William C. Byrd, Jr., B.S., Wake Forest, 1947; M.D., Bowman Gray, 1950 ; 7/1/50—
Marvin A. Bowers, Jr., A.B., Lenoir-Rhyne Coll., 1944; M.D., U. of Louisville, 1950; 7/1/50-
Margaret L. Cason, B.S., Fla. State U., 1945; M.D., U. of Chicago, 1950 ; 7/1/50-
Walter L. Davis, M.D., Columbia U., 1947 ; 7/1/49-6/30/50.
Robert J. Sheridan, A.B., M.D., Duke, 1944, 1948; 7/1/50-
Robert G. Thompson, M.D., Duke, 1945; 11/1/49-
Charles A. Van Arsdall, A.B., U. of Louisville, 1946; M.D., Johns Hopkins, 1949; 7/1/50-

Junior and senior students, during their medical quarters, have pediatric ward rounds on Saturdays, from 8:30 to 9:30 A.M. These junior students receive instruction in introductory pediatrics and the physical diagnosis of infants and children. The senior students are divided into three groups, each of which spends one quarter in pediatrics. During this quarter they are assigned daily as clinical clerks on the children's ward, nursery, and pediatric out-patient clinic, attend ward rounds at 8:30 A.M. Mondays and Fridays and 9:30 A.M. on Wednesdays; attend the staff conference at 8:30 A.M. on Wednesdays; attend child guidance clinic each Thursday at 11:00 A.M.; attend conference on pediatric roentgenology each Wednesday at $11: 00$ A.M.; are instructed in the practical nursing of infants by Miss Sherwood on Fridays at 9:30 A.M.; and are taught the preparation of diets for infants and children by the Professor of Dietetics. Each student attends infant feeding clinics on Fridays during this quarter. Students may attend, on voluntary basis, the special pediatric clinicsnephritis, cardiac, allergy, and convulsive disorders. Elective courses: Senior students may spend two weeks in general practice with Instructors in General Practice. In addition to the six pediatric internships, there are four in which six months each are spent in obstetrics and pediatrics for graduates who plan to enter general practice. Seven assistant residencies and one residency are available.

## Preventive Medicine and Public Health

Norman Francis Conant, B.S., A.M., Ph.D., Professor of Mycology and Associate Professor of Bacteriology.
A. S. Pearse, B.S., A.M., Ph.D., LL.D., Professor of Zoology. B.S., M.A. and LL.D., Nebraska, 1900, 1904 and 1941; Ph.D., Harvard, 1908.

David Tillerson Smith, A.B., M.D., Professor of Bacteriology, Chairman of the Department, and Associate Professor of Medicine.
Elbert Lapsley Persons, A.B., M.D., Assistant Professor of Medicine, Director of Student Health, and Associate Professor of Preventive Medicine and P'ublic Health.
John E. Larsh, Jr., A.B., M.S., Sc.D., Associate in Parasitology.
A.B. and M.S., Illinois, 1939 and 1940; Sc.D., Johns Hopkins, 1943; Assistant Professor of Public Health, University of North Carolina, Chapel Hill, N. C., 1943-
W. G. Brown, A.B., Instructor in Preventive Medicine and Public Health. A.B., North Carolina, 1932; Chemist, Water Department, Durham, N. C.

Albert Derwin Cooper, A.B., M.D., Instructor in Medicine.
Jesse Harrison Epperson, B.S., Instructor in Preventive Medicine and Public Health.
B.S., Oklahoma, 1914; Health Officer, Durham City and County, 1922; 1930-
D. M. Williams, B.S., Lecturer in Preventive Medicine and Public Health. B.S., North Carolina, 1910; Superintendent of Water and Sewer Department, Durban, N. C.
H. Pope, A.B., A.M., Ph.D., Technical Instructor in Preventive Medicine and Public Health.
A.B., Georgia State College for Women, 1944; A.M., Ph.D., Duke, 1946 and 1949.

Public Health. This course consists of two three-hour periods weekly throughout the fifth quarter and is designed to acquaint the student with the general principles of environmental sanitation and the various techniques used by official and voluntary agencies in their efforts to improve health in a community. The laboratory work consists of practical exercises in such subjects as water and milk bacteriology, vital statistics, epidemiology, etc., some of the periods being reserved for field trips 's'o that the student can observe plants in actual operation.

Medical Parasitology is a lecture and laboratory course given one morning a week in the fourth quarter. Most of the emphasis is placed on the symptomatology, diagnosis and therapy of the various helminthic and protozoal diseases in man; several periods are devoted to medical entomology.

Elementary Biostatistics. This course consists of one lecture and one two-hour laboratory period a week throughout the fourth quarter. Instruction is given in methods of tabulation and graphing of medical data and the interpretation of such data. The methods of testing for statistical significance are illustrated by problems taken from the medical literature.

Preventive Medicine. This course is given in the senior year and consists of three one-hour lectures or clinics each week throughout the autumn quarter. Emphasis is placed upon the principles of Preventive Medicine as they can be applied by the physician in private practice. By
the case method of presentation, the student has the opportunity of learning how the cooperation of health and social organizations can be of assistance to the physician in his management of the individual patient.

Legal Medicine and Toxicology
J. B. Bradway, Professor of Lazu.
E. C. Bryson, Associate Professor of Laze.
W. D. Forbus, Professor of Pathology.
D. T. Smith, Professor of Bacteriology and Associate Professor of Medicine.
H. M. Taylor, Associate Professor of Biochemistry and Toxicology.

This course embraces a discussion of the relation of physicians to legal criminal procedures, jurisdiction of the coroner and medical examiner, laws governing the dead human body, personal identity of the living and the dead, the medicolegal autopsy, traumatic injuries and fractures, rape, abortion, asphyxial death, homicidal, suicidal, and industrial poisoning, alcoholism, the examination of blood, stains, fibers, and the detection of malingering. The course is open to junior and senior students and is given in alternate years. Discussions of medicolegal problems for the house staff and senior students, and joint conferences of the medical and law students also are held.

## UNDERGRADUATE CANCER TRAINING PROGRAM

## (Supported by a grant in aid from the U. S. Public Health Service.) Staff

Coordinator: Wiley D. Forbus, M.D. Operating Committee:

John T. Cuttino, M.D., Associate in Pathology, Chairman. Clarence E. Gardner, M.D., Associate Professor of Surgery. Wayne Rundles, M.D., Assistant Professor of Medicine.
Bayard Carter, M.D., Professor of Obstetrics and Gynecology.
George Baylin, M.D., Associate Professor of Radiology.
Director: George F. Kipkie, M.D.
Assistant Director: John P. Collins, M.D.
Teaching Fellows:
Clifford Hageerty, M.D.
Lowell S. Miller, M.D.
Social Service Worker: Isabel Pelton.
Secretaries:
Mrs. Kate V. James.
Mrs. Joyce Shankle.
During the senior year, the students in surgery participate in the teaching sessions held by the Undergraduate Cancer Training Program staff and the senior staff. These sessions are held five days a week, and an attempt is made to cover systematically the various regions in the body in respect to the tumors which arise in them. The viewpoints of the clin-
ician, the radiologist, and the pathologist are presented and correlated at this time. The students themselves prepare seminars on theoretical subjects which have a direct bearing on the problem of neoplasia in general. This portion of the program is repeated each quarter throughout the year.

In addition, the Undergraduate Cancer Training Program staff participates in the teaching of neoplasia to the sophomore students. This is done as a supplementary program to the students as they are being taught the principles of neoplastic disease by the Department of Pathology. New material is presented to them and here the clinicopathological approach to the problem of neoplasia has special emphasis. In this phase of the program it has not been possible to cover the entire body but selected regions are utilized.

## COMMITTEES OF THE SCHOOL OF MEDICINE

EXECUTIVE COMMITTEE OF THE SCHOOLS OF MEDICINE AND NURSING


## COMMITTEE ON PHYSICAL THERAPY



## SCHOOL OF NURSING

Florence K. Wilson, R.N., B.A., M.A., Dean of the School of Nursing and Professor of Nursing Education.
R.N., City Hospital Sch. of Nursing; B.A., Univ. of Mich., 1913; M.A., Western Reserve, 1930; Instr. and Supervisor, Western Res. Univ. Sch. of Nursing, 1923-1929; Research Ass't., Committee on Grading of Schs. of Nursing, 1929-1930; Dir. of the Sch. of Nursing, Syracuse Mem. Hosp.; Instr. and Supervisor Med. Nursing, New York Hosp., 1934-1937; Associate Prof. of Nursing Education, Syracuse Univ., $1943-$ 1945; Superintendent of Nurses, Duke Hospital, 1946-
*Helen Nahm, R.N., B.S., M.S., Ph.D., Director, Dicision of Nursing Education and Professor of Nursing Education.
R.N., Univ. of Missouri Sch. of Nursing, 1924; A.B., University of Missouri, 1926; M.S., Univ. of Minnesota, 1939; Ph.D., Univ. of Minnesota, 1946; Instr., Scott and White Hospital, 1927-1930; Dir., Univ. of Missouri Sch. of Nursing, 1935-1941; Dir., Hamline-Asbury Sch. of Nursing, St. Paul, Missouri, 1942-1945; 1946-
The next class of students will be admitted to the Duke University School of Nursing on September 15, 1950, but applications will be considered at any time. Information about the entrance and other requirements, length of course, tuition fees, application forms and bulletins may be obtained by writing to the Dean of the School of Nursing, Box 3714, Duke Hospital, Durham, N. C. Duke University offers a combined academic-professional program leading to the degree of Bachelor of Art, Bachelor of Science or Bachelor of Science in Nursing Education. Information as to this program may be secured from the same source.

## SCHOOL OF DIETETICS

Elsie W. Martin, A.B., M.S., Professor of Dietetics.
A.B., Whitman, 1913; M.S., Teachers Coll., Columbia, 1927; Prof. of Home Economics, Puget Sourd, 1915-1917; Dietitian, Univ., of Iowa Hosp., 1919-1920, and Charles T. Miller Hosp., St. Paul, Minn., 1920-1926; Admin. Dietitian, Lakeside Hosp., Cleveland, 1927-1930; Director of Dietetics, Duke Hospital, 1930-
Elizabeth Yearick, B.S., M.S., Teaching and Clinic Dietitian, Assistant Director.
Paschal Chapman, B.S., Administrative Dietitian and Assistant Director.
Erma Lee Adams, A.B., C.P.A., Recorder.

* Leave of absence, 1950-1951.

Lou Alford, B.S., Therapeutic Dictitian.
May Dearing Nicholson, B.S., Therapeutic Dietitian.
Elizabeth Steele, B.S., Administrative Ward Dietitian.
Priscilla Spooner, B.S., Assistant Administrative Dietitian.
Geraldine Ford, B.S., Assistant Therapeutic Dietitian.
In addition to the dietetic training of the students of the Schools of Medicine and Nursing, fourteen dietetic interns may be admitted to the School of Dietetics and given the certificate of graduate dietitian after the success ful completion of one year's internship. The entrance requirements are a Bachelor's degree from an approved university or college, with majors in mutrition and institutional management, and the courses in chemistry, biology, social science, and education recommended by the American Dietetic Association. The course for dietetic interns provides instruction in all phases of hospital and institutional dietetics, including experience from the buying and storage of food to its service to the patients according to the physician's orders. Interns may apply some of their time in securing graduate credit.

The course starts the first of September. All students pay a registration fee of $\$ 10$ at the time of appointment. Additional fees are charged if the intern takes additional work in the University for an advanced credit. Maintenance is provided. More detailed information and application blanks may be obtained from the Professor of Dietetics, Duke University School of Dietetics, Durham, N. C.

## STAFF OF DUKE HOSPITAL

## Administrative and Technical Staff

F. R. Porter, A.B., Superintendent.
J. M. Pyne, B.S., Assistant Superintendent.
L. E. Swanson, A.B., Assistant Superintendent.

DeWitt Wright, B.S., J.D., Assistant Superintendent.
Anne S. Garrett, A.B., Personnel Officer.
C. H. Cobs, Ph.G., Business Manager, Medical Division.

Luther Smith, A.B., Assistant Business Manager, Medical Division.
E. S. Raper, A.B., Business Manager, Surgical Division.
R. N. Crenshaw, Assistant Business Manager, Surgical Division.

Watson S. Rankin, M.D., D.Sc., Instructor in Hospital Administration.
Marshall I. Pickens, A.B., M.A., Instructor in Hospital Administration.
George P. Harris, A.B., Instructor in Hospital Administration.
James R. Felts, Jr., Instructor in Hospital Administration.
Charles E. Prall, A.B., M.A., Ph.D., Visiting Lecturer in Hospital Administration.
David A. Barnes, A.B., Assistant in Administration.
Charles H. Clark, B.A.E., M.A., Assistant in Administration.
Charles H. Frenzel, A.B., Assistant in Administration.
Hubert M. Johnson, B.S., Assistant in Administration.
John K. Lockhart, B.S., Assistant in Administration.
Richard P. Moorhouse, A.B., Assistant in Administration.
J. Roger Pugh, A.B., Assistant in Administration.

Willie L. Simon, A.B., Assistant in Administration.
Russell L. Dicks, A.B., B.D., D.D., Chaplain.
Florence K. Wilson, R.N., B.A., M.A., Dean of School of Nursing.
Elsie Wilson Martin, A.B., M.S., Director of Dietetics.
Erma L. Adams, Recorder and Administrative Assistant Dietitian.
I. Thomas Reamer, Ph.G., Pharmacist.

Jessie Lee Smith, B.S., Assistant Pharmacist.
Reba New Hobgood, Public Dispensary.
Judith Farrar, A.B., B.S., Librarian.
Mildred P. Farrar, A.B.. Assistant Librarian.
Ruth C. Martin, A.B., M.D., Anesthetist.
Janet Wien, A.B., M.S., Social Service.
Jessie Harned Bufkin, Record Librarian.
Elon Henry Clark, Artist.

Robert Blake, Assistant Artist.
Helen Louise Kaiser, R.P.T., Physical Therapist.
Martha Matthews, A.B., Occupational Therapist.
Bert R. Titus, Braces and Instruments.

## Hospital and Out-Patient Clinic Teaching, Resident and Intern Teaching Staff

See Departmental lists, pages 15-52.

## INTERNSHIPS AND RESIDENCIES

Internships of twelve months' duration with room, board, laundry, and uniforms furnished, but without salary, are available in medicine, surgery (including general surgery, urology, orthopaedics, plastic, anesthesia, thoracic, and neuro-surgery), orthopaedics, urology, otolaryngologyophthalmology, dentistry, obstetrics and gynecology, endocrinology, pediatrics, neuropsychiatry, and pathology commencing July first.

Application blanks for all internships may be obtained by writing to the Superintendent, Duke Hospital, Durham, N. C. Graduates of any Class A medical school are eligible for internships.

After the completion of an internship in Duke Hospital or in another acceptable hospital, a certain number may be appointed as assistant residents in medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, neurology, dermatology, orthopaedics, urology, otolaryngology, ophthalmology, roentgenology, anesthesiology, pathology, biochemistry, or the Student Health Service or as fellows of the Private Diagnostic Clinic, at a salary of $\$ 250$ to $\$ 500$ per year with maintenance, and eventually may be promoted to the residency in the various departments or subdepartments of the Hospital at an annual salary of $\$ 500$ to $\$ 1,000$ with maintenance. Applications should be made to the head of the department concerned.

The Hospital and School of Medicine are an integral part of the Duke University campus, and its educational, recreational, and athletic facilities are available for the Resident Staff.

The present Resident Staff of one hundred nine consists of a resident, twelve assistant residents, and nine interns in medicine; a resident and two assistant residents in dermatology and syphilology; an assistant resident in neurology; five assistant residents in neuropsychiatry; a resident, five assistant residents, and thirteen interns in surgery (the five assistant residents are assigned in rotation to general surgery, plastic, thoracic, neuro-surgery, and pathology) ; a resident, two assistant residents, and one intern in otolaryngology and ophthalmology ; a resident and one assistant resident in orthopaedics; a resident and one assistant resident in urology ; a resident and one assistant resident in plastic surgery; a resident, four assistant residents, and three interns in obstetrics and gynecology; a resident and one intern in endocrinology; a resident, three assistant residents, and eight interns in pediatrics; three interns in ob-
stetrics and pediatrics : two residents and four assistant residents in radiology; a resident, two assistant residents, and three interns in pathology; four assistant residents in anesthesiology, and eight in hospital administration.

## POSTGRADUATE STUDY

Graduates in medicine are welcomed at the various clinics and demonstrations in medicine, surgery, obstetrics, and other specialties, which are held from 9:30 A.M. to 12:30 P.M. each Saturday, as well as at the daily ward-rounds in the mornings and the out-patient clinics in the afternoons. They can start at any time and remain as long as they wish. Additional special work in any department for a period of not less than three months may be arranged by consultation with the head of the department concerned. A certain number of residencies also are available at Duke Hospital in medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, neurology, dermatology, orthopaedics, urology, otolaryngology, ophthalmology, roentgenology, pathology, and biochemistry. Further information can be obtained by writing to the Dean.

Returning veterans are requested to register on arrival at the Dean's office, Room M133, and with Miss Barbara L. Perkins, 302 Administration, who will assist them in obtaining the benefits of the G. I. Bill of Rights, which will provide tuition and $\$ 75$ per month for maintenance ( $\$ 105$ if one dependent, $\$ 120$ if more than one dependent).

## SCHOOL OF HOSPITAL ADMINISTRATION

Eight internships in hospital administration leading to a certificate will be available to university graduates whose character, tact, and ability for leadership are good, and whose academic standing is high. These internships are of two years' duration and pay a small salary in addition to room, board, and laundry. Vacations of two weeks are allowed during each year of internship.

The instruction is practical rather than theoretical in emphasis. The interns are rotated through six different assistant administrative positions in the Hospital. There is also a weekly seminar lasting two hours.

During these two or three years, the interns may also register in the Graduate School of Duke University, and receive the A.M. degree after the successful completion of a thesis and twenty-four semester hours of university courses in various fields. This additional work will add one year to the program. Further information may be obtained by writing to the Superintendent, Duke Hospital, Durham, N. C.

# MEDICAL SOCIAL SERVICE 

Janet Wien, A.B., Associate in Medical Social Service.
A.B., Radcliffe, 1935; M.S., Simmons, 1944; Medical Social Worker, Grace-New Haven Community Hospital, 1944-1949; Chief of Medical Social Scricice, Duke Hospital, 1949-
Sara Harriette Amey, A.B., Assistant in Medical Social Service.
Madge Marie Aycock, A.B., M.S., Assistant in Medical Social Service.

Marjorie Lee Gardenier, A.B., Assistant in Medical Social Service.
Jennie Efird Harris, A.B., M.S., Assistant in Medical Social Service.
Martha Jane Lovelace, A.B., M.S.W., Assistant in Medical Social Service.
Evalyn Lynch, A.B., M.S.W., Assistant in Medical Social Service.
Rosella Morgan McLain, A.B., M.S.S.W., Assistant in Medical Social Service.
Marion Isabel Pelton, A.B., M.S., Assistant in Medical Social Service.
Medical social case-work service is offered to patients referred by personnel within the Hospital, and by interested individuals and health and welfare agencies outside of the Hospital. Assistance and advice in connection with the problems presented are available to the members of the Staff and referring agencies.

The division also assists in teaching social and environmental aspects of illness and medical care through consultations and lectures to the students of the Schools of Medicine and Nursing. In addition, it serves as an agency for supervised field work for students of the Graduate School of the University of North Carolina. Further information concerning training for advanced students may be obtained from the Social Service Division, Duke Hospital, Durham, N. C.

## ANESTHESIOLOGY

Charles Ronald Stephen, B.S., M.D.C.M., Associate Professor of Anesthesiology and Chief of Division of Anesthesiology.
B.S. and M.D.C.M., McGill University, 1938 and 1940; Int., Rotat., Montreal General Hosp., 1940-1941; Res. in Med., Jeffrey Hale's Hosp., Quebec City, Que., 1941. 1942; Major, Royal Canadian Army Medical Corps, 1942-1946; Ass't. Res., Res. in Dept. of Anes., McGill Univ. School of Anes., December 1942-March 1943; Course in Anes., Royal Infirmary, Oxford; Anesthetist to Montreal Neurological Institute, June 1946-July 1947; Director, Dept. of Anes., Childrens Memorial Hosp., Montreal, August 1947-June 30, 1950; Lecturer, Dept. of Anes., McGill Univ., August 1947-August 1949; Ass't. Prof., Dept. of Anes., McGill Univ., August 1949-June 30, 1950; Associate Professor of Anesthesiology, Duke Hospital, July 1, 1950-

Ruth Campbell Martin, B.A., M.D., Assistant Professor of Anesthesiology. B.A., Texas Christian, 1937; M.D., Washington Med. School, St. Louis, Mo., 1941; Int., Rotat., Deaconess Hosp., St. Louis, Mo., 19+1-1942; Ass't. Res., Res. and Instr. in the Dept. of Anes., Billings Hosp., 1942-1944; Anesthetist, Duke Hospital, 1944-

Mary H. Snively, R.N., M.A.A.N.A., Instructor in Anesthesiology, in Charge of Anesthesiology for Nurses.
R.N., Johns Hopkins Hospital School of Nursing, 1929; Certificate in Anesthesia, Johns Hopkins Hospital, 1930; Nurse Anesthetist, Duke Hospital, 1930-
A. Frances Rowland, R.N., M.A.A.N.A., Assistant in Anesthesiology.

Mary B. Campbell, R.N., M.A.A.N.A., Assistant in Anesthesiology.
Martha Brown, R.N., M.A.A.N.A., Assistant in Anesthesiology.
Mildred D. Rosemond, R.N., M.A.A.N.A., Assistant in Anesthesiology.
Lola A. Glenn, R.N., M.A.A.N.A., Assistant in Anesthesiology
Zeta H. Beeson, R.N., M.A.A.n.A., Assistant in Anesthesiology.
Kathryn D. Glavey, B.S.N., R.N., M.A.A.N.A., Assistant in Anesthesiology.

# Graduate Students (House Staff) <br> Residents and Assistant Residents in Anesthesiology 

Robert Clifford Wulfman, M.D., Duke, 1945.
Bertram F. Townsend, A.B. and M.D., Duke, 1941 and 1944.
Zenas Waldo Ford, Jr., B.S., University of Arkansas, 1940; M.D., Duke, 1946.
A two- to three-year residency training program in anesthesiology is available for physicians who are graduates of a Class A medical school and who have completed an internship in an accredited hospital.

Courses available to graduate nurses include an eighteen months' course for nurses who have had no experience in anesthesia, and a nine to twelve months' course for nurses with five years of practical experience who have not had formal training in the specialty. Instruction embraces the theoretical aspects and clinical application of all drugs and techniques in accepted usage. The program is divided into quarters. The major part of the basic theoretical instruction is given during the first three quarters. After a pre-clinical period of eight weeks, clinical practice runs parallel with the theoretical program. One class is accepted annually and enrolled on January 15. All appointments for the current year are made by September 1 of the preceding year. Graduates of these courses are eligible to take the examination given by the American Association of Nurse Anesthetists. Tuition is $\$ 150.00$ and $\$ 100.00$ respectively. Additional information concerning these programs for nurses may be obtained from Mary H. Snively, R.N., Box 3094, Duke Hospital, Durham, North Carolina.

## COURSE IN LABORATORY TECHNIQUE

Haywood Maurice Taylor, B.S., M.S., Ph.D., Associate Professor of Biochemistry and Toxicology.
David Tillerson Smith, A.B., M.D., Professor of Bactcriology and Associate Professor of Medicine.
Oscar Carl Edvard Hansen-Prüss, A.B., M.D., Associate Professor of Medicine in Charge of Clinical Microscopy.
Ralph Wayne Rundles, A.B., Ph.D., M.D., Associate in Medicine.
Mary Alverta Poston, A.M., Instructor in Bacteriology.
Hoyle W. Craig, Technical Instructor in Bacteriology.
Preston W. Smith, Technical Instructor in Hematology.
The course in laboratory technique, which includes training in blood chemistry, clinical microscopy, bacteriology, serology, basal metabolism, etc., is approved by the Registry of Technicians of the American Society of Clinical Pathology. The course lasts eighteen months, the next class starting September 22, 1950. The registration fee is $\$ 75.00$, and there are no additional charges except for breakage. The students live in town at their own expense. A minimum of two years of approved college work is required. Information as to the specific requirements may be obtained from Dr. Haywood M. Taylor, Duke Hospital, Durham, North Carolina.

COURSE IN X-RAY TECHNOLOGY
Robert James Reeves, A.B., M.D., Professor of Radiology and Chairman of the Department.
George Jay Baylin, A.B., M.D., Associate Professor of Radiology and Associate in Anatomy.
John C. Glenn, A.B., M.D., Assistant Professor of Radiology.
John B. Cahoon, Jr., R.T., A.S.X.T., Technical Instructor.
Herman L. Hassell, R.T., Technical Instructor.
Applicants for training in x-ray technology should satisfy one of the following requirements: A.B. or B.S. degree, or Diploma of Graduate Nurse, or special students without either of these requirements who might be appointed by the committee. The course is of twelve months' duration and the following subjects are presented: elementary anatomy and physiology, physics, x-ray equipment, dark room chemistry and procedure, x-ray technics and general office routine. Examination is given at the end of the first quarter and a grade of 75 must be made to continue the course. Two students are appointed in October and two in March each year. The tuition fee is $\$ 25$. No maintenance is provided. This course is approved by the American Council of Medical Education, American Medical Association, the American College of Radiology and the American Registry of Radiological Technicians.

## PHYSICAL THERAPY

Lenox D. Baker, M.D., Chairman of Committee on Physical Therapy.
Helen Louise Kaiser, R.P.T., Associate in Physical Therapy, in Charge of Division of Physical Therapy.
Mary C. Singleton, B.S., R.P.T., Assistant in Physical Therapy.
Dorothy A. Bjork, B.S., R.P.T., Assistant in Physical Therapy.
Mary L. Donovan, B.S., R.P.T., Assistant in Physical Therapy.
Enola S. Flowers, B.S., R.P.T., Assistant in Physical Therapy.
Rosemary E. Garrett, B.A., R.P.T., Assistant in Physical Therapy.
Gillian F. Griffith, B.S., R.P.T., Assistant in Physical Therapy.
Edna M. Poplin, B.A., R.P.T., Assistant in Physical Therapy.
Dorothy Vestal, B.S., R.P.T., Assistant in Physical Therapy.
A fifteen months' course in physical therapy is offered for men and women graduates of accredited schools of physical education and nursing, and for selected applicants who have completed ninety college semester hours, including credit in the biological sciences, physics, chemistry and psychology. The curriculum provides instruction in anatomy, physiology, kinesiology, pathology, psychology, electrotherapy, neuropsychiatry, therapeutic exercise and the principles of rehabilitation. Instruction in the clinical subjects is given by members of the faculty of the School of Medicine. Clinical training will be given at Duke Hospital and affiliated institutions and includes supervision of orthopaedic problems in the Durham Public Schools. The course starts in October. The tuition fee is $\$ 350$
plus $\$ 35$ for medical fee, and does not include maintenance. A certificate is awarded upon successful completion of the course. Eighteen hours of credit may be earned toward the baccalaureate degree. In addition to the training of physical therapy students, courses are given to the students of the Schools of Medicine and Nursing. Further information and application blanks may be obtained from the Division of Physical Therapy, Duke Hospital, Durham, North Carolina.

## RECORD LIBRARY

Jessie Harned Bufkin, R.N., R.R.L., Medical Record Librarian.
A course for the training of medical record librarians, which has been given full approval by the American Association of Medical Record Librarians and the American Medical Association, includes all details of the theory and practice of clinical record library methods. The length of the training is twelve months. The tuition fee is $\$ 175.00$ and does not include maintenance. Applications may be made to the Medical Record Librarian, Duke Hospital, Durham, N. C.

## DIVISION OF MEDICAL ART AND ILLUSTRATION

Elon H. Clark, Associate Professor of Medical Art and Illustration. Rochester Institute of Technology, 1927-1930; Johns Hopkins School of Medical Art, 1930-1933; Instr., Medical Art, Johns Hopkins School of Medical Art, 1933-1934; Chrm., Medical Art and Illustration Div., Duke, 1934-
Henry F. Pickett, Instructor in Medical Art and Illustration.
Robert L. Blake, Instructor in Medical Art and Illustration.
George C. Lynch, Medical Artist.
Mary M. Barden, Letter Artist.
Raymond L. Howard, Medical Photographer.
A. C. Webster, Medical Photographer.

Ted M. Scoggins, Assistant Medical Photographer.
The primary function of this Division is to produce visual clinical records for supplementation of case histories, visual aids for teaching, illustrations for publication, and accurate drawings of conditions in which draftsmanship, knowledge of subject and imagination are the prime requisites. Requests for this work may emanate from any of the medical or allied sciences. Other services offered are: the production of exhibits, casts, models, prosthetic appliances, tantalum plates, charts, graphs, mechanical drawings, clinical photographs (still), motion pictures, photomicrography, fundus photography, copying, lantern slides, prints in black and white and color and special problems in infra-red.

## SCHOOL OF MEDICINE STUDENTS

(At heginning of autumn quarter, Octoher 3, 1949.)

|  | First Year | Second Year | Junior Year | Senior Year |  | 1932.1950 Graduates |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Students | ... 76 | Second ${ }_{75}$ | ${ }_{76}$ Junior | ${ }_{74}$ | ${ }_{301}$ | Graduates |

## FIRST-YEAR STUDENTS

Adams, Reuhen Homer, Jr. (University of Cincinnati, Southern Methodist University), Union, N. J.
Appen, Raymond Carl (Duke University), Somerset, Ky.
Ayerst, Robert Irvin (Yale University, Duke University), Connellsville, Pa.
Bacos, James Michael (Virginia Polytechnic Institute), Brooklyn, N. Y.
Baer, Bruce Lawrence (Duke University, Haverford College), Chapel Hill, N. C.
Bell, William Reed (University of Florida, University of the South), Pensacola, Fla.
Berlin, Melvin (Duke University), Savannah, Ga.
Berry, Joseph Norman (Clemson College), Charleston, S. C.
Blackard, Emhree Hoss, Jr. (Duke University), Gastonia, N. C.
Bondurant, Stuart Osborne, Jr. (University of North Carolina), Winston-Salem, N. C.
Boren, Richard Benjamin, III (University of North Carolina), Greensboro, N. C.
Brice, George Wilson, Jr. (Duke University), Charlotte, N. C.
Bridges, Ronzee McIntyre (Louisiana State University, Duke University), Shreveport, La.
Brockmann, John Lyndon (Universtiy of North Carolina), High Point, N. C.
Bryant, Gerald Nelson, Jr. (High Point College, University of North Carolina), Statesville, N. C.
Bullard, Luhin Fletcher, Jr. (University of North Carolina), Garland, N. C.
Butler, William Gilhert, Jr. (University of North Carolina), Laurinburg, N. C.
Caffey, John William. Jr. (Duke University), Greenshoro, N. C.
Cain, Frank Coral, Jr. (Catawha College), Salishury, N. C
Carter, Needhan Battle (Duke University), Rocky Mount, N. C.
Casto, Dorothy Louise (West Virginia University), Morgantown, W. Va.
Chick, Ernest Watson (Duke University), Durham, N. C.
Chittum, John Raymond (Wooster, Duke University), Wooster, Ohio.
Cohey, William Gray (University of Minnesota, University of the South), Louishurg, N. C.
Earley, Charles Marion, Jr. (Duke University), Norfolk, Va.
Edwards, Ian Keith (Duke University), Easley, S. C.
Evans, Eugene Micheaux, Jr. (Duke University), Durham, N. C.
Evans, William Canfield, Jr. (Duke University), Gainesville, Fla.
Fishel, John Lewis (University of North Carolina), Winston-Salem, N. C.
Flanagan, John Francis (Virginia Polytechnic Institute), Blacksburg, Va.
Fogleman, Ross Lee, Jr. (Cornell University, Guilford College, Duke University), Greensboro, N. C.
Fowler, William Robert (University of North Carolina), Pilot Mountain, N. C.
Garlington. Laurens Nelson (Duke University), Birmingham, Ala.
Gihhes, Rohert Walter (University of South Carolina), Columhia, S. C.
Gleason, William Lounshery (Duke University), Daytona Beach, Fla.
Glenn, James Francis (University of Kentucky, University of Rochester), Lexington, Ky.
Hall, Kenncth Daland (Duke University), Durham, N. C.
Haworth, Sara Eldora (Guilford College), High Point, N. C.
Hicks, Julius Norton (Duke University), Enterprise, Ala.
Hillman, Charles Harlan (Virginia Polytechnic Institute), Blackshurg, Va.
Keck, Charles, Jr. (Cornell University, Duke University). New York, N. Y.
Kent, Alfred Henry (Duke University), Winter Park, Fla.
Kernodle, Donald Reid (Elon College), Elon College, N. C.
*Lawrence, Allen Franklin (University of Oklahoma), Lawton, Okla.
Lyday, William Davie (Davidson College), Gastonia, N. C.
Mabe, Paul Alexander, Jr. (Wake Forest College), Morganton, N. C.
Mahry, Edward Bloxton (Duke University), Greenshoro, N. C.
McArn, Hugh Munroe, Jr. (Davidson College), Laurinhurg, N. C.
McCall, John B., Jr. (University of Virginia, Duke University), Jacksonville, Fla.
McNeely, Irwin Hollar (Duke University), Morganton, N. C.
Meiselman, Rude Karmus (Brown University), Charlotte, N. C.
Metcalf, Boyd Hendren (Duke University), Chevy Chase, Md.
Niblock, Franklin Chalmers, Jr. (Oregon State College, Davidson College), Concord, N. C.
Overton, Dolphin Henry, Jr. (Virginia Military Institute), Shelhy, N. C.
Parker, Mayon Vann (Duke University), Durham, N. C.
Parkerson, George Rohert, Jr. (Duke University), Macon, Ga.
Pierce, Ellison Cline, Jr. (University of Virginia), Gastonia, N. C.
Pollard, Lawrence Welford, Jr. (University of South Carolina), Columbia, S. C.
Rankin, Richard Brandon, Jr. (Wake Forest College), Concord, N. C.
*Withdrew, Novemher 22, 1949.

Rogers, William Haywood, III (University of North Carolina), Raleigh, N. C.
Roof, Anne Carolyn (University of South Carolina), Columbia, S. C.
Rosemond, Robert Malone (Duke University), Charleston, S. C.
Sager, Samuel Ott (Duke University), Danville, Va.
Somers, James Earl (North Carolina State College, University of North Carolina), Burlington, N. C.
Stickel, Delford LeFew (Duke University), Martinsville, W. Va.
Tatom, Louis (Duke University), Ft. Monmouth, N. J.
Terrell, Thomas Eugene (Guilford College), Greensboro, N. C.
Vestal, Tom Alford (University of North Carolina), Rocky Mount, N. C.
Watt, Thomas Bunyan, Jr. (U. S. Naval Academy, Duke University), Hartsville, S. C.
Welch, George Harrison, Jr. (Duke University), Anderson, S. C.
Williams, Jean Babington, Jr. (Duke University), Hendersonville, N. C.
Williams, Jesse Lee, Jr. (Harvard University, University of Florida), Jacksonville, Fla.
Winslow, Francis Edward, Jr. (Harvard University, University of North Carolina), Rocky Mount, N. C.
Woodbury, Philip Stephen (Duke University), Pearisburg, Va.
Worsham, Julius Berry, Jr. (Duke University), Ruffin, N. C.
Young, Charles Gibson (Wake Forest College), Winston-Salem, N. C.

## SECOND-YEAR STUDENTS

Agner, Marshal Edward (Lenoir-Rhyne College), Spencer, N. C.
Alexander, Lawrence Melton (Duke University), Lexington, N. C.
Altany, Franklin Edward (University of Mississippi, St. Vincent College), Brackenridge, Pa.
Alter, George Frederick (The Ohio State University, University of Toledo), Toledo, Ohio. Anderson, William Henry, Jr. (Presbyterian College), West Point, Ga.
Ardrey, William Benjamin, III (The Citadel), Fort Mill, S. C.
Baldwin, Kenneth Rone (Duke University), Whiteville, N. C.
Bethany, Joe Jackson, Jr. (University of Alabama), Boligee, Ala.
Bowen, James Lamar (Duke University), Westminster, S. C.
Bowles, Richard Morgan (Duke University), Long Island, N. Y.
Brass, Phillip (New York University, Seton Hall College), Newark, N. J.
Brewer, Spencer Spainhour, Jr. (The Citadel, University of Georgia), Atlanta, Ga.
Burks, Henry Lucius (University of Texas), Tyler, Texas.
Chambers, Robert Edward (University of Oklahoma), Oklahoma City, Okla.
Chears, William Crockett, Jr. (Duke University), Charlotte, N. C.
Coggeshall, Berryman Edwards, Jr. (Duke University), Darlington, S. C.
Cooper, Frank Benton (Davidson College, University of North Carolina), Statesville, N. C.
Corpening, Joseph Durham (University of North Carolina), Granite Falls, N. C.
Cox, Howard Louis (Wake Forest College, Duke University), Jonesboro, N. C.
Davenport, Clifton (Duke University), Durham, N. C.
David, Noble Jonathan (Duke University), Jacksonville, Fla.
Davidson, Norman William (Franklin \& Marshall College), Baltimore, Md.
Davidson, William David (Univ. of Arizora, Duke University), Los Angeles, Calif.
Frazer, Joe Walton, Jr. (Clemson College), Charlotte, N. C.
Futrell, Mary Frances (Peabody College, Univ. of Kentucky), Cadiz, Ky.
Garrett, Spencer Roberts (Alabama Polytechnic Institute, Univ. of Miami), Columbus, Ga.
Gomez, Alphonse Charles (Dakota Wesleyan Univ., St. Louis Univ.), LaPaz, Bolivia, S. A. Graham, Harvey Polhemus (Duke University), Pearl River, N. Y.
Hamilton, Frederick Cooper (Brevard College, Oak Ridge Military Institute, University of North Carolina), Morehead City, N. C.
Hampton, Ambrose Gonzales, Jr. (The Citadel), Raleigh, N. C.
Hartley, James Phillip (N. C. State College, Univ. of Florida), Miami, Fla.
Harvey, Wallace Weston, Jr. (Wake Forest College), Wake Forest, N. C.
Hataway, Garrett Arthur (Louisiana Polytechnic Institute, University of Texas), Athens, Texas.
Jackson, Elizabeth Claire (Duke University), Portland, Conn.
Jeter, Robert Vernon (N. C. State College, Duke Uniyersity), Raleigh, N. C.
Jones, William Bailey (Mass. Institute of Tech., Duke University), Mobile, Ala.
Kaicher, Thomas Victor (Holy Cross College), Brooklyn, N. Y.
Kawchak, James (Duke University), Johnstown, Pa.
Kimmelstiel, Ruth (Randolph-Macon College), Charlotte, N. C.
Kindler, Jack (Duke University), Passaic, N. J.
Langley, Thomas Ellison (East Carolina Teachers College, Wake Forest College), Greenville, N. C.
Link, Robert Jeffrey (Bethany College), Uniontown, Pa.
Lourie, Herbert (Univ. of South Carolina), St. George, S. C.
Magill, Frank Bell (Univ. of Illinois, Va. Polytechnic Institute), Shanghai, China.
Marder, Gerard (Biltmore Jr. College, Univ. of North Carolina), Asheville, N. C.
McCall, Michael Alvin (Vanderbilt University, N. C. State College, U. N. C. Extension), Marion, N. C.
McCarley, Ben Pushmataha (Virginia Military Institute, Southern Methodist University), McAlester, Okla
McClung, Eugene (West Va., Wesleyan, Duke University), Beckley, W. Va.
Meyer, George Wright (Univ. of North Carolina), Chapel Hill, N. C.

Michaels, Marilyn Jean (Duke University), Gadsden, Ala.
Moody, William Alton (Clarion State Teachers College, Wake Forest College), Rockingham, N. C.
Moore, de Saussure Parker, Jr. (Univ. of North Carolina), Kingstree, S. C.
Morris, Francis Albert, Jr. (Univ. of Texas), Beaumont, Texas.
Mott, Helen Josephine Elizabeth (Custer County Junior College. Montana State College), Miles City, Mont.
Paar, James Albert (Duke University), Warren, Ohio.
Park, Charles Wilbur (Kent State, Mount Union, Ohio State), Columbus, Ohio.
Pryor, John Ray (Univ. of Louisville, Univ. of Kentucky), Mayfield, Ky.
Reed, Clark Grant (San Jose State College), San Jose, Calif.
Reinmuth, Oscar McNaughton (Univ. of Texas), Austin, Texas.
Savitt, Allen Jack (Duke University), Ansonia, Conn.
Shapiro, Lewis (Duke University), Great Neck, N. Y.
Skeen, Max Verne (Princeton University), High Rock, N. C.
Smith, George Bryan, Jr. (Duke University), Greenville, S. C.
Smith, Joseph James Lawton (Furman University, Emory University), Greenville, S. C.
Stennett, Clarence Ernest (Concord College), Princeton, W. Va.
Stewart, Edgar Bethea (The Citadel), Laurinburg, N. C.
Tahan, Naim George (Univ. of Iowa, Univ. of Arizona), Tucson, Ariz.
Travis, Burton Lester (Cornell University, Columbia University, Univ. of North Carolina), New York, N. Y.
Wallace, John Dixon, Jr. (Duke University, Alabama Polytechnic Institute, Univ. of Kentucky), Charlotte, N. C.
Wansker, Bernard Arthur (Duke Universtiy), Athens, Ga.
Warren, Donald Eugene (Florida Southern Cullege, Washington and Lee University), Lakeland, Fla.
Wester, Millard Winston, Jr. (N. C. State College, Davidson College), Henderson, N. C.
Wolf, Robert Lawrence (Duke University), Brooklyn, N. Y.
Wright, Henry Livingston, Jr. (Alabama Polytechnic Institute, Ball State Teachers College, Spring Hill College), Mobile, Ala.
Young, Robert Ulrich (Duke University), Swannanoa, N. C.

## JUNIOR STUDENTS

Agner, Roy Augusta, Jr. (Lenoir-Rhyne College, Washington University, Catawba College), Spencer, N. C.
Austin, Charles Newton (West Virginia University, Duke University), Charleston, W. Va.
Austin, James Howard (Randolph-Macon Academy, Duke University), Valencia, Pa.
Bell, William Sterling (Schreiner Institute. Texas Christian University, Texas University), Austin, Texas.
Bledsoe, Robert Eugene (University of Mississippi School of Medicine), University, Miss.
Bivens, Thomas Walter (N. C. State College, University of North Carolina), Boydton, Va.
Blue, Willis Berton (David Lipscomb College, Vanderbilt University, Duke University), Robards, Ky.
Booker, Laurena Park (Woman's College of the University of North Carolina), Greensboro. N. C.

Brock, Julian Stanley (University of North Carolina), Rocky Mount, N. C.
Castle, Charles Hilmon (University of Mississippi School of Medicine), Pachuta, Miss.
Chase, George Oscar (University of Maine, Duke University), Millinocket, Maine.
Coggins, Deborah Ferne Reid (Florida State College for Women, University of Washington, University of Tampa, University of Florida), Tampa, Fla.
Coggins, Wilmer Jesse, Jr. (Duke University), Madison, Fla.
Coleman, Blair Pickens (The Rice Institute), Wichita Falls, Texas.
Conover, Raymond Everett (Baylor University), Neptune, N. J.
Cook, Paul Huie (Pfeiffer Junior College, Berry College, Duke University), U'nion Grove, N. C.

Cranford, James Abram, Jr. (Washington and Lee University), Jacksonville, Fla.
*Crowder, John Nathaniel (Duke University), High Point, N. C.
Curtis, Thomas Edwin (Oklahoma University, Southwestern University, Oklahoma University), Miami, Okla.
Daniel, Thomas Manning (Louisburg College, Duke University), Oxford, N. C.
Dimmette, James Edwin (High Point College, University of Texas, Duke University). Laurel Hill, N. C.
Drake, David Ewing (Duke University), Knoxville, Tenn.
Easterling, John Garlick (Duke University), Rocky Mount, N. C.
Engel, Marvin Franklin (Duke University), Atlantic City, N. J.
Evans, Eugene Goldsmith, Jr. (Clemson College, Newberry College). Pendleton, S. C
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# BULLETIN OF <br> DUKE UNIVERSITY 

## The Divinity School

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Law, apply to The Dean of the School of Lawe, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durhan, N. C.

For Bulletin of The Suaimer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

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## BULLETIN

OF

# Duke University 



# THE DIVINITY SCHOOL 

1949-1950
ANNOUNCEMENTS FOR 1950-1951


Entrance to the Duke Divinity School

## CALENDAR

1950
Sept. 19 Tuesday-Dormitories open for occupancy.
Sept. 23 Saturday, 11:00 A.m.-First Regular Faculty Meeting.
2:30 p.m.-Orientation program for new students
Sept. 25 Monday, 9:00 A.M. $-4: 00$ P.M.-Matriculation and registration of students.
Sept. 26 Tuesday, 8:30 A.m.-Instruction begins.
Sept. 27 Wednesday, 11:00 A.m.-Formal opening exercises.
Nov. 23 Thursday-Thanksgiving Day: a holiday.
Dec. 11 Monday-Founders Day.
Dec. 20 Wednesday, 5:00 P.m.-Christmas recess begins.
1951
Jan. 4 Thursday, 8:30 A.m.-Instruction is resumed.
Jan. 17 Wednesday-Mid-year examinations begin.
Jan. 27 Saturday-Mid-year examinations end.
Jan. 30 Tuesday, 9:00 A.M.-4:00 P.м.-Matriculation and registration for second semester.
Jan. 31 Wednesday, 8:30 A.m.-Second semester begins.
March 23 Friday, 5:00 p.m.-Spring vacation begins.
April 3 Tuesday, 8:30 A.M.-Instruction is resumed.
April Wednesday-English Bible examination in Old Testament (date to be announced).
April Wednesday-English Bible examination in New Testament (date to be announced).
May 21 Monday-Final examinations for second semester begin.
May 31 Thursday-Final examinations end.
June 2-4 Commencement.

## GENERAL ADMINISTRATION

ARTHUR HOLLIS EDENS, B.Ph., A.M., M.P.A., Ph.D., LL.D. President of Duke University

PAUL MAGNUS GROSS, B.S., A.M., Ph.D.

Vice-President in the Educational Division
CHARLES EDWARD JORDAN, A.B., LL.D.
Vice-President in the Division of Public Relations, Secretary of the University
HERBERT JAMES HERRING, A.B., A.M., LL.D.
Vice-President in the Division of Student Life
ALFRED SMITH BROWER, A.B.
Business Manager and Comptroller
CHARLES BLACKWELL MARKHAM, A.B., A.M. Treasurer of the University

COMMITTEE OF THE bOARD OF TRUSTEES ON THE DIVINITY SCHOOL
W. W. Peele, T. M. Grant, H. B. Porter, N. E. Edgerton, W. A. Stanbury

## EDUCATIONAL ADMINISTRATION

bOSLEY, HAROLD A., B.A., B.D., Ph.D., D.D. Dean of the Divinity School
RUSSELL, ELBERT, A.B., A.M., Ph.D., Litt.D.
Dean Emeritus of the Divinity School
YOUNG, FRANKLIN WOODROW, A.B., B.D., Ph.D.
Dean of Students
EHLHARDT, GEORGE BRINKMANN, A.B., B.D.
Registrar and Librarian of the Divinity School

## FACULTY

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## COMMITTEES OF THE FACULTY

The Dean is an ex officio member of all committees.

Admissions: Cannon, Ehlhardt, Walton, Young.<br>Alumni: Ehlhardt, Cannon, Hickman, Spence.<br>Chapel Services and Spiritual Life: Cushman, Cleland, Petry, Rudin.<br>Curriculum: Cannon, Cushman, Dicks, Hickman, Smith.<br>Dizinity School Bulletin: Spence, Cleland, Walton.<br>Dizinity School Seminars: Ehlhardt, Myers, Stinespring.<br>Faculty Adzisers for Students: Young, Beach, Myers.<br>Library: Petry, Cushman, Ehlhardt, Stinespring.<br>Public Exercises: Smith, Beach, Cleland, Petry.<br>Radio Services: Rudin, Cleland, Dicks.<br>Registration: Ehlhardt, Beach, Rudin, Young.<br>Schedule: Ehlhardt, Hickman, Rudin, Young.<br>Scholarship Aid: Walton, Ehlhardt, Young.<br>Senior Seminars: Petry, Cannon, Ehlhardt.<br>Social: Beach, Rudin, Spence.<br>Student Eraluation: Young, Ehlhardt, Petry, Walton. Summer Session: Cannon, Ehlhardt, Myers, Smith.

# THE DIVINITY SCHOOL OF DUKE UNIVERSITY 

## GENERAL INFORMATION

## HISTORICAL STATEMENT

The Indenture of Trust signed on December 11, 1924, by Mr. James B. Duke, which established Duke University, mentioned first among its objects the training of ministers of the Gospel. The Divinity School was, accordingly; the first of the graduate professional schools to be organized. Its work began with the year 1926-27, the formal opening exercises being held on November 9, 1926.

The Reverend Doctor Edmund Davison Soper was the first dean of the Divinity School. He was succeeded in 1928 by the Reverend Doctor Elbert Russell, and the latter in turn in 1941 by the Reverend Doctor Paul Neff Garber. In 1944. Dean Garber was elected to the episcopacy of the Methodist Church, and Doctor Harvie Branscomb assumed the duties of the dean's office. In 1946, Dean Branscomb became Chancellor of Vanderbilt University, and in 1947 the Reverend Doctor Paul E. Root was elected dean but died before he could assume the office. The Reverend Doctor Harold A. Bosley became dean in 1947 and resigned in 1950 to become the pastor of the First Methodist Church, Evanston, Illinois.

## THE PURPOSE OF THE DIVINITY SCHOOL

The primary purpose of the Divinity School is to provide training for individuals planning to enter the Christian ministry. This includes not only prospective ministers in local churches, but also those preparing themselves to be missionaries at home and abroad, directors of religious education, teachers of religion, and social workers. Vital to all of these forms of service is a full understanding of the beginnings, content, and history of the Christian faith and its special pertinence for the spiritual needs of the modern world. Studies of a broad and thorough character directed toward such an understanding constitute the center of the curriculum of the Divinity School and are regarded as the basic training for all prospective Christian workers. Specific training in the skills required of local ministers and of leaders in the work of religious education are also provided. As funds become available for the purpose and as needs appear, additional training in specialized skills and areas of knowledge will be added to the curriculum.

Though bound by ties of history and obligations to the Methodist Church, the Divinity School is multi-denominational in its interests and ecumenical in its outlook. Its faculty is limited to no one denomination, but draws upon the resources of them all. Students of the several denominations are admitted on the same basis. The Divinity School conceives its task to be one of broad service to the Church of Christ in all of its forms.

## THE RELATION OF THE DIVINITY SCHOOL TO DUKE UNIVERSITY

The Divinity School is an integral unit of the University and shares fully in its activities, privileges and responsibilities. The Sunday services in the University Chapel give the Divinity School students an opportunity to hear each year a number of the leading preachers of the country. The University Libraries make easily accessible a rich collection of approximately a million volumes. Selected courses in the Graduate School of Arts and Sciences and in the professional schools are open to Divinity School students without payment of additional fees. The general cultural and recreational resources of the University are available to them on the same basis as other students.

## LIBRARY RESOURCES

The Divinity School has its own library containing over forty-nine thousand volumes. It is rich in complete files of the more important religious journals and periodicals, in source materials, particularly for the study of American church history, missions and the history of religion, and in facsimiles of the more important manuscripts of the New Testament. Among the most treasured possessions of the Library are eleven Greek New Testament manuscripts, of which one is a magnificent manuscript of the thirteenth or fourteenth century containing the entire text of the New Testament.

The general Library of the University is connected by a corridor with the Divinity School Building. It contains over eight hundred thousand volumes and receives the current issues of several thousand periodicals. The general Library contains also a catalogue of the library of the University of North Carolina located at Chapel Hill, twelve miles away, and a system of exchange operates between the two libraries so that books may be secured from that library also within a few hours.

The Henry Harrison Jordan Loan Library was endowed in 1947 by the children of the late Reverend Henry Harrison Jordan for the purpose of providing ministers in the field with the best of current religious literature. This collection was an outgrowth of the Duke Divinity School Loan Library established in 1944.

## RELIGIOUS AND SOCIAL LIFE

One of the most important aspects of a program of training for religious service is the development of a warm and discriminating spiritual experience. The center of the corporate life of the Divinity School is its own place of worship, York Chapel. Regular chapel services are held at which all students are expected to be present. Services are led by members of the faculty, by visiting ministers, and by members of the student body. Ordination and other special services are held upon occasion. On each Sunday morning services are held in the University Chapel.

The student body of the Divinity School is united by a strong sense of fellowship and common interest. Student committees organize and supervise social service projects and missions of preaching, jail visitation, and related enterprises. Opportunities for occasional preaching are always available.

## PUBLIC LECTURES

The Divinity School presents several public lectures ammally. The lectures for 1949-50 were: Professor William Foxwell Albright of Johns Hopkins University, "Prophecy and History in Israel": Reverend Alan Richardson, Canon of Durhan Cathedral, "The Conception of Revelation in Our Modern Theology"; Professor George Flororsky of Saint Vladimir's Theological Seminary, "The Eastern Tradition in Christianity"; Dean Walter George Muelder of Boston Theological Seminary, "The Sources of Industrial Peace."

## THE DIVINITY SCHOOL LIBRARY LECTURES

In 1948 the Duke Divinity School Library Lectures were established by The Reverend George Brinkmann Ehlhardt for the purpose of bringing to the campus a succession of the greatest religious leaders of the day. In 1950 this lecture was given by the Reverend Doctor John Cecil Trever, Director of the Department of the English Bible, The International Council on Religious Education. The lecture, entitled "From Ancient Scroll to Modern Bible," was given in conjunction with the exhibition of three ancient Hebrew scrolls lent by His Eminence, Mar Athanasius Yeshue Samuel, Metropolitan and Archbishop of Jerusalem and Trans-Jordan.

## THE CHRISTIAN CONVOCATION

The Christian Convocation of 1950 will be held on the Duke campus from June 6-9. The Convocation, under the joint sponsorship of the Duke Divinity School, The North Carolina Pastors' School, The North Carolina Rural Church Institute, and The North Carolina Council of Churches, will bring to the campus an outstanding group of religious leaders as lecturers and teachers.

## ENDOWED SCHOLARSHIP FUNDS

Certain special scholarship funds have been established, the income of which is available for students wishing to secure training in preparation for the Christian ministry.

These scholarships are all awarded on the basis of service performed in a local church, thus providing for the student experience as well as financial aid.

## N. Edward Edgerton Fund

In 1939 Mr. N. Edward Edgerton of Raleigh, North Carolina, an alumnus of Duke University of the Class of 1921, a member of the Board of Trustees of the Úniversity and a member of the Committee on the Divinity School, established the N. Edward Edgerton Fund. The award is limited to students who are candidates for the B.D. degree.

## P. Huber Hanes Scholarship

Mr. P. Huber Hanes of Winston-Salem, North Carolina, an alumnus of Duke University of the Class of 1900 and a member of the Board of Trustees, has established an annual scholarship yielding the sum of $\$ 400.00$.

## Elbert Russell Scholarship

In 1942 the Alumni Association of the Divinity School established a scholarship fund in honor of Elbert Russell. Dean Emeritus of the Divinity School and for a number of years Professor of Biblical Theology.

## W. R. Odell Scholarship

In 1946 the Forest Hills Methodist Church, Concord, North Carolina, established a scholarship fund in memory of W. R. Odell, for many years a member of the Board of Trustees of the University.

## Hersey E. Spence Scholarship

In 1948 the Steele Street Methodist Church of Sanford, North Carolina, established a scholarship fund in honor of Professor Hersey E. Spence, a former pastor of the congregation.

## Jesse M. Ormond Scholarship Fund

In 1949 the North Carolina Conference established a scholarship fund in honor of Professor Jesse M. Ormond, who for many years was Director of Field Work in the Duke Divinity School and Professor of Practical Theology.

## Duke Endowment Scholarships

There are available for students preparing for the Methodist ministry approximately sixty work scholarships provided by the Duke Endowment for aiding rural Methodist churches in North Carolina. Terms of these scholarships are given on page 14 of this catalogue.

## ANNUAL SCHOLARSHIPS

In addition to the endowed scholarships and those provided by the Duke Endowment, the Divinity School receives annual scholarship funds from the following churches and individuals: The Edenton Street Methodist Church, Raleigh, N. C.; West Market Methodist Church, Greensboro, N. C.; Myers Park Methodist Church. Charlotte, N. C.; Christ Methodist Church, Charleston, W. Va.; Mr. J. C. Cowan, Jr., Greensboro, N. C. These scholarships are awarded on the same basis as the endowed scholarships.

## THE METHODIST COLLEGE ADVANCE

The Divinity School was a participant in the North Carolina Methodist College Advance with askings of $\$ 200,000.00$ for scholarship aid and extension of the School's service to ministers. Many local churches and individuals have shared in the raising of this significant sum. Specific contributions are the Henry Harrison Jordan Loan Library and the James A. Gray Fund.

## THE JAMES A. GRAY FUND

In 1947 Mr. James A. Gray of Winston-Salem, North Carolina, presented the fund which bears his name to the Divinity School for use in expanding and maintaining its educational services in behalf of North Carolina churches and pastors. From this fund four scholarships are awarded, two in city church work, and two in rural church work. The

Divinity School Seminars are also supported by income from this gift. In 1950 the James A. Gray Lectures were established and the first series was given by Dr. Ralph W. Sockman, pastor of Christ Church (Methodist) of New York, during The Christian Convocation.

## COURSES OF STUDY OFFERED BY THE DIVINITY SCHOOL

The Divinity School offers at present two courses of study. The basic course is that which leads to the degree of Bachelor of Divinity. This is a three-year course and is recommended to all those preparing themselves for the work of the regular pastoral ministry.

Beginning with the year 1944-45 the Divinity School offered also a course of study leading to the degree of Master of Religious Education. This course is designed for individuals who wish to become directors or to take other specialized positions in the work of religious education. The course does not provide a general preparation for the work of the regular ministry and cannot serve as a substitute for it. No exchange of credits between the two courses is permitted, nor can departmental courses taken be credited toward more than one degree. Only a limited number of candidates for the Master of Religious Education degree will be accepted annually.

The requirements for each of these degrees are stated on pages 17 through 26 in this catalogue.

## COURSES OF STUDY IN RELIGION OFFERED BY THE GRADUATE SCHOOL OF ARTS AND SCIENCES

Students who desire to pursue work in religion beyond that for the Bachelor of Divinity degree should register in the Graduate School of Arts and Sciences, through which the degrees of Master of Arts and Doctor of Pliilosophy may be obtained. This advanced work is administered through the Department of Religion of the Graduate School and is available to qualified persons of all denominations on an equal basis. Study and research may be pursued in three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. A list of courses approved by the Graduate Council for work in these fields, together with general requirements for admission to the Graduate School, may be found in the Bulletin of the Graduate School. This Bulletin is available on application to Dean Paul Gross, the Graduate School of Arts and Sciences, Duke University.

A limited number of University Scholarships and Fellowships, among which are two Gurney Harriss Kearns Fellowships of $\$ 1,000$ each, may be obtained by exceptionally qualified students. Applications for these must be submitted to Dean Gross on University form blanks not later than March 15 of each year.

Inquiries concerning specific requirements of the Department of Religion in the Graduate School should be addressed to Professor H. Shelton Smith, Director of Graduate Studies in Religion.

## FACILITIES FOR ADVANCED STUDY IN THE AMERICAN SCHOOLS OF ORIENTAL RESEARCH

The Divinity School of Duke University is one of the supporting members of the American Schools of Oriental Research. Accordingly, students in the Divinity School have the privilege of attending the American School in Jerusalem or the one in Bagdad without charge for tuition. They may also compete for the financial aids which are offered annually by the Schools. These consist of four fellowships, the stipends depending upon available funds.

# COST, RESIDENTIAL ARRANGEMENT, AND STUDENT AID 

## FEES AND COSTS

The University tuition charge is $\$ 175$ per semester. Scholarships covering this amount are granted to all Divinity School students. Other charges are as follows:

Fecs per scmester:
General Fee........................................................................ $\$ 50.00$
Approximate cost of meals per semester ................................... . . . . 175.00
Room per semester (double room)........................................... . . 62.50
Total per semester
\$287.50
The "General Fee" is in lieu of all special charges, and includes the following Fees: Matriculation, Nedical, Library, Damage, Commencement and Diploma. Students may secure admission to all athletic contests held on the University grounds by payment of the Athletic Fee of $\$ 5.00$ per semester, plus any Federal taxes that may be imposed.

## LATE REGISTRATION

Students matriculating in either semester at a date later than that prescribed in the catalogue shall pay to the Treasurer of the University a penalty of $\$ 5.00$.

## DINING HALL

The dining halls in the University Union have accommodations for all resident Divinity School students. Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room where full meals and a la carte items are served.

## LIVING QUARTERS

Divinity School students are housed in the University dormitories along with other graduate and professional students. Application for room assignments should be addressed to the Housing Bureau, Duke Station, Durham, N. C. The cost of a single room is $\$ 87.50$ per semester, or a double room $\$ 62.50$ per student per semester. A reservation fee of $\$ 25$ is required at the time a room is assigned. This reservation fee is deducted from the room charges at the time of registration. Students are urged to apply for rooms as early as possible. Under present circumstances delays in application are likely to result in failure to secure accommodations. Students occupying rooms in the dormitories who wish to retain their rooms for a following year must notify the Office of the Director in the Business Division by May 15.

All rooms in the dormitories are provided with heat, water, electric lights, and essential furniture. Each student furnishes his own blankets.
sheets (mattresses $39^{\prime \prime} \times 74^{\prime \prime}$ ), pillows and pillow slips, towels, rugs and curtains.

The University has no apartments for married students. Students desiring such quarters should plan to arrive in Durham as early as possible before the opening of the fall semester in order to make their living arrangements. While the Divinity School Office will assist wherever it can in these matters, it cannot assume responsibility for making such arrangements.

## STUDENT AID

Duke University remits its regular tuition charges to all students enrolled in the Divinity School. Scholarship aid, over and above this, is available only in the form of work scholarships. The funds for these scholarships come from the sources described on pages 9-10 of this catalogue. Those appointed to these scholarships agree to give ten weeks' service during the summer months to a church to which they are assigned. In return they receive their board and room for the period of their summer service and $\$ 600$. This latter sum is made available during the academic year preceding the summer work if desired. By special arrangement a student may be assigned to a church for five weeks' work with one-half the stated remuneration.

This plan of scholarship aid has several advantages. It provides an opportunity for earning a large part of the year's expenses, while at the same time assuring the student valuable experience in religious leadership.

Students who must have additional income over and above their summer's earnings may secure part-time employment during the academic year. They are strongly urged, however, to make their arrangements, if possible, so that they will not have duties which will prevent them from taking the fullest advantage of the educational and cultural opportunities of the Divinity School.

## WORK SCHOLARSHIPS

The Department of Field Work is maintained to help students receiving scholarship aid to secure work opportunities where they may render service for such aid. Their work will be supervised so that their experiences may be part of their ministerial training. Students not on scholarship are also helped to secure work opportunities for the experience to be gained. All students working under the department have their board, room, laundry, and travel expenses provided by the charge served. Certain courses are required of all students engaged in field work and are designed to prepare students for the work in which they engage. All students assigned to field work must maintain satisfactory grades and attitudes.

## STUDENT GOVERNMENT ASSOCIATION

Each student of the Divinity School upon enrollment becomes a member of the Student Government Association. Four officers are elected by the student body annually in April to serve for the following year. These officers, the President, Vice-President, Secretary, and Treasurer, along
with the Dean of the Divinity School or the Dean of Students, serve as the Executive Committee, and the committee chairmen constitute the Student Council which meets in monthly session to review and coordinate the programs of the several committees. It is desired that all students contribute to the corporate life of the School through active participation in the work of the committees. The Association operates on the basis of a unified budget, each student contributing to its support dues in the amount of $\$ 3.00$ per semester.

## REQUIREMENTS FOR GRADUATION REQUIREMENTS FOR ADMISSION

The Divinity School is a fully accredited member of the American Association of Theological Schools. Candidates for admission must hold the degree of A.B., based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, or the equivalent of such a degree, and their college records must be such as to indicate their ability to carry on graduate professional studies. They will be admitted without examination on presentation of an official transcript of college and other academic credits which they may have secured. The application of students from foreign countries will be considered, each on its own merits, the general principle being that a training equivalent to that of a baccalaureate degree from an accredited American college must have been secured. Women will be admitted on the same basis as men. The Divinity School accepts students who desire to transfer from other accredited theological schools on the basis of transcripts of their work and honorable dismissal. However, all transfer students will be expected to meet the full requirements of the Divinity School and should recognize the fact that there may be loss of time in conforming to these requirements. Credits will be formally accepted only after the student has spent one semester in the Duke Divinity School. In addition to an adequate academic preparation, applicants must satisfy the Faculty as to their Christian character and purpose. A formal application blank may be secured from the Dean of the Divinity School. This must be filled out and returned by all candidates for admission.

## ADMISSION OF GRADUATES OF NON-ACCREDITED COLLEGES

1. Applicants for admission who are graduates of non-accredited colleges will be considered on their merits, but only those who give evidence of special promise will be admitted. Specifically, such applicants must show that they have attained a superior average (approximately "B") for a four-year college course.
2. Admission of such persons will, in every case, be on probation. Probation means:
a. Students who, during the first year of Divinity School work (thirty semester hours), maintain a consistently low average, including one or more failures, will be required to withdraw from the school.
b. In the case of a student admitted on probation, no credit will be granted toward either the B.D. or the M.R.E. degree for any course in
which, during the first year's work (thirty semester hours), a grade of less than "S" (see catalogue section on "grading system") is recorded.
c. When the student has been admitted on probation, and is subsequently found to be deficient in the essential requisites of any given area of the "Pre-Seminary Curriculum" (see next section of catalogue), the Divinity School Faculty reserves the right to direct that the student make up such deficiencies by additional courses of study taken in other schools of Duke University in order to qualify for either the B.D. or M.R.E. degree, but without credit for such courses toward those degrees.

## PRE-SEMINARY CURRICULUM

The Divinity School, in substantial agreement with the standards of the American Association of Theological Schools, recommends that prospective candidates for admission keep in mind the desirability of including the following in their undergraduate curriculum:
(A student lacking the essential requisites in any given area may be directed to make up the deficiencies by additional courses of study in order to qualify as a candidate for a Divinity School degree.)

It is suggested that a student should acquire a total of 90 semester hours or complete approximately three-fourths of his college work in the areas listed below: No work done towards a first college degree may be used toward a Divinity School degree.

| Basal Fields English | Semester | Sem. Hours 12-16 |
| :---: | :---: | :---: |
| Literature, Composition and Speech |  |  |
| Philosophy | 3 | 6-12 |
| At least two of the following : |  |  |
| Introduction to philosophy |  |  |
| History of plilosophy |  |  |
| Ethics |  |  |
| Logic |  |  |
| Bible or Religion | 2 | 4-6 |
| History | 3 | 6-12 |
| Psychology | 1 | 2-3 |
| A foreign language | 4 | 12-16 |
| At least one of the following : Latin |  |  |
| Greek (especially recommended) |  |  |
| Hebrew (especially recommended) |  |  |
| French |  |  |
| German |  |  |
| Natural sciences | 2 | 4-6 |
| Physical or biological |  |  |
| Social sciences | 2 | 4-6 |
| At least two of the following: |  |  |
| Economics |  |  |
| Sociology |  |  |
| Government or political science |  |  |
| Social psychology |  |  |
| Education |  |  |

## CONCENTRATION

Concentration of work, or "majoring," is a common practice in colleges. For such concentration or major, a constructive sequence based
upon any one, two, or three of the above fields of study would lead up naturally to a theological course.

Of the various possible areas of concentration, where areas of concentration are required, a major in English, philosophy, or history is regarded to be the most desirable.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF DIVINITY

During the academic year 1948-49, the curriculum of the Divinity School was extensively revised. By action of the Faculty, all students admitted to the Divinity School as of September 1, 1949, will conform to the requirements for the B.D. degree as printed in this issue of the catalogue. All students planning to graduate as of June, 1950, will continue under the former plan, especially as to requirement of a major and thesis. A special committee, consisting of the Dean and Professors Cannon and Petry, was set up to adjust the new curriculum to the rights and needs of all other students, whether already enrolled in the School or entering as transfers from other institutions: many such students may find it necessary to graduate under the major and thesis plan.

The plan for the first two years of the revised curriculum went into effect as of September, 1949. The Vocational Groups and the Senior Seminars called for in the work of the third year are in process of development and will be put into effect for the year 1950-51.

The requirements for the degree of Bachelor of Divinity are the following :

Completion of ninety semester hours of course work, including the required courses of the Core Curriculum, listed on pages 18 and 24 .

The selection, not later than the end of the middle year, of one of the Vocational Groups, and completion of the special requirements of the Group chosen, including satisfactory completion of the work of at least one Senior Seminar.

Demonstration of a detailed knowledge of the contents of the narrative portions of the English Bible. Examinations for this purpose in Old and New Testament are given each spring. Examinations for the academic year 1950-1951 will be held on successive Wednesdays in April, exact dates to be announced later.

Students who show deficiencies in English will be required to take special training in addition to meeting the other requirements for the degree. A degree may be withheld on the grounds of English deficiency only.

The course leading to the degree of Bachelor of Divinity is planned to cover three years of normal academic work. In no case will this degree be conferred on a student until he has spent at least two semesters in residence in the Divinity School. This is defined as the completion of thirty semester hours of work, not more than six hours of which may be taken in the Duke University Summer Session.

By special permission a student who has begun his work in Duke Divinity School as a candidate for the B.D. degree may be given credit
for not more than 30 semester hours of work taken in another seminary on the approved list of the American Association of Theological Schools. Except in unusual cases, request for such credits must be approved prior to the beginning of work at the other institution. In every such case, however, the final 15 hours of class credit presented for graduation must be done at Duke and must include satisfactory completion of one of the Senior Seminars. No such student will be relieved of any of the requirements for graduation specified in the catalogue of the Duke Divinity School.

Unless all the work offered for the B.D. degree is completed within a period of nine years from the date of beginning, the student will be required to make formal application for re-admission and revaluation of his credits in the light of the then-existing curriculum of the Divinity School. Except in unusual cases, work of a fragmentary character taken over a long period of years, or work taken many years before a student is admitted to the Duke Divinity School, will not be accepted for credit toward the B.D. degree.

# THE CORE CURRICULUM 

(Required Courses)

## First Year, First Semester

11. Introduction to the Old Testament.-The origins, literary forms, and contents of the books of the Old Testament in their geographical and historical setting. 4 s.h. Mr. Stinespring
12. History of the Pre-Reformation Church.-A survey to the sixteenth century in terms of spiritual genius, organizational development, great literature, and representative movements. 4 s.h.

Mr. Petry
15. Living Religions of the World.-A survey of the religious systems of India, China, and Japan, followed by a study of Judaism, Mohammedanism, and Christianity, the object being to trace the historical development of each religion. 3 s.h. Mr. Cannon
17. Effective Speaking.-Fundamentals of preparation and delivery to develop effectiveness in private and public speech. Individual conferences.
(Students electing Vocational Group I, will, upon recommendation of the instructor, take also Speech 132.) 2 s.h.

Mr. Rudin

## First Year, Second Semester

18. Early Christian Life and Literature.-A basic study of the civilization in which Christianity began: the origin and development of the Christian Church and its literature through the second century. 4 s.h.

Mr. Clark
20. Introduction to Christian Theology.-Contemporary theological tendencies, method and theory of knowledge, and introductory interpretation of the principal tenets of the Christian faith. 4 s.h.

Mr. Cushman
22. Psychology of Religion.-An analysis of the major factors in religious experience. 3 s.h.

Mr. Hickman
Students engaged in any kind of Field Work are required to take one of the Field Work Seminars (1 s.h., Mr. Walton). Unless taken at this spot (second semester of the first year) such seminars will be charged against the free elective allowance.

The examination in English Bible, which is required of all students, will be taken in this term.

## Second Iear, First Semester

19. Introduction to New Testament Theology.-A constructive analysis and exposition of the positive doctrinal content of the New Testament. Prerequisite: N.T. 18. 2 s.h.

Mr. Young
21. Introduction to the History of Christian Doctrine.-The chief theological controversies, church creeds and confessions in the history of Christian thought from the anti-gnostic fathers to the year 1576. Prerequisite: C.T. 20. 2 s.h.

Mr. Cushman
23. Church Administration I.-An introduction to the administrative and supervisory procedure essential in the total work of the church. 2 s.h.

Mr. Walton
25. Educational Theory and Practice in the Church.-An over-all and introductory view of the educational functions of the church. Consideration is given to the work of organization, administration and supervision of the church school. 2 s.h.

Mr. Spence
27. Christian Ethics I.-The central assumptions and principles of the Christian conception of the good life. 3 s.h. Mr. Beach
29. Sermon Construction-Theory.-An investigation of the theory of preaching. Prerequisite: Sp. 17 or 132. 2 s.h. Mr. Cleland

## Second Year, Second Semester

12. Psalms, Wisdom Literature, and the Problem of Theodicy.-Prerequisite: O.T. 11. 2 s.h.

Mr. Brownlee
14. History of the Reformation and Post-Reformation Church.-Selected studies in the evangelical revival of Luther, Calvin, and the English Reformers, as related to the Catholic Counter-Reformation and the contemporary European Church. Prerequisite: C.H. 13. 2 s.h.

Mr. Petry
24. Missions.-The history and philosophy of the missionary enterprise. 2 s.h.

Mr. Cannon
26. Introduction to Pastoral Care.-A study of the background, needs, and methods of pastoral work and counseling. 2 s.h.

Mr. Dicks
28. Movements in American Religious Thought.-Beginning with the English Reformation, this course introduces the leading types of Protestantism transplanted to or developed within colonial America, primary emphasis being placed upon the dominant modes of Christian thought. 3 s.h. Mr. Smith
30. Sermon Construction-Practice.-Continuation of Pr. 29. Detailed work in practice preaching and a clinical session each week on the application of theory. 2 s.h.

Mr. Cleland and Mr. Rudin

Duke University
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distribution of courses by years
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24. Mishons (2)
26. Pastoral (are (2)
28. Movements in American
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44. Reformationand Post-Reform
Church History
12. Psalms, Wisdom Literature
30. Sermon Construction-Praction
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\text { 27. Christian Ethics } & 3 \\
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\text { 29. Sheology } & 2 \\
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# SCHEDULE OF THE CORE CURRICULUM <br> First Year-First Semester 

| Hour | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8:30 |  |  |  |  |  |  |
| 9:30 |  | C. H. 13 | C. H. 13 | C. H. 13 | C. H. 13 |  |
| 10:30 |  | Chapel | Chapel | Chapel | Chapel |  |
| 11:00 |  | H. R. 15 | Assembly | H. R. 15 | H. R. 15 |  |
| 12:00 |  | O. T. 11 | O. T. 11 | O. T. 11 | O. T. 11 |  |
| 2:00 |  | Three additional hours may be scheduled as offered. |  |  |  |  |

SCHEDULE OF THE CORE CURRICULUM
First Year-Second Semester

| Hour | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8:30 |  |  |  |  |  |  |
| 9:30 |  | Theol. 20 | Theol. 20 | Theol. 20 | Theol. 20 |  |
| 10:30 |  | Chapel | Chapel | Chapel | Chapel |  |
| 11:00 |  | Psy <br> Rel. 22 | Assembly | Psy. <br> Rel. 22 | Psy. <br> Rel. 22 |  |
| 12:00 |  | N. T. 18 | N. T. 18 | N. T. 18 | N. T. 18 |  |
| 2:00 |  | *Pract. <br> Theol. 144 <br> Three addi | *Pract. <br> Theol. 142 <br> onal hours | ay be sched | ed as offer |  |

*Students doing any kind of field work will choose one of these seminars.

SCHEDULE OF THE CORE CURRICULUM
Second Year-First Semester

| Hour | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8:30 |  |  |  |  |  |  |
| 9:30 |  | R. E. 25 | P. T. 23 | R. E. 25 | P. T. 23 |  |
| 10:30 |  | Chapel | Chapel | Chapel | Chapel |  |
| 11:00 |  | Ch. Eth. 27 | Assembly | Ch. Eth. 27 | Ch. Eth. 27 |  |
| 12:00 |  | N. T. 19 | Theol. 21 | N. T. 19 | Theol. 21 |  |
| 2:00 |  | Preaching <br> 29 <br> Three addit | nal hours | Preaching <br> 29 <br> ay be schedu | as offered |  |

SCHEDULE OF THE CORE CURRICULUM
Second Year-Second Semester

| Hour | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8:30 |  |  |  |  |  |  |
| 9:30 |  | $\begin{aligned} & \text { Missions } \\ & 24 \end{aligned}$ | Pastoral Care 26 | Missions 24 | Pastoral Care 26 |  |
| 10:30 |  | Chapel | Chapel | Chapel | Chapel |  |
| 11:00 |  | Am. Rel. <br> Tht. 28 | Assembly | Am. Rel. <br> Tht. 28 | Am. Rel. Tht. 28 |  |
| 12:00 |  | O. T. 12 | C. H. 14 | O. T. 12 | C. H. 14 |  |
| 2:00 |  | Preaching <br> 30 <br> Three add | onal hours | Preaching <br> 30 <br> ay be sched | led as offer |  |

Third (Senior) Year
Vocational Groups. (One of these to be chosen by every B.D. candidate not later than the end of the Middle Year.)

## I. The Preaching Ministry and Pastoral Service

In the third year, students electing Vocational Group I must take one course from each of the following fields, except in the case of those students who have previously elected these courses during the first two years:

Religious Education<br>Practical Theology<br>Pastoral Care

Speech (for those found deficient in first course)
Philosophy of Religion
The student will also elect one Senior Seminar. The seminar will carry credit of two semester hours. Free electives in sufficient amount to complete 90 hours for graduation will be taken.

## II. Applied Christianity

A. Religious Education. In the third year, students electing Vocational Group II must take the following courses, except in the case of those students who have previously elected these courses during the first two years:

Religious Education and Practical Theology (3 courses distributed between the two departments)
Psychology of Religion (1 course)
The student will also elect one Senior Seminar. The seminar will carry credit of two semester hours. Free electives in sufficient amount to complete 90 hours for graduation will be taken.
(Students planning to teach the Bible in public schools should elect some work in Bible.)
B. Missions.
C. Chaplaincy: Hospital or General.
D. Campus Religious Directors. (These to be developed as called for.)

## III. Teaching and Research in Religion

In the third year, those choosing Vocational Group III must take seven courses from the following :

| American Religious Thought | History of Religions |
| :--- | :--- |
| Bible (may be language) | Psychology of Religion |
| Christian Ethics | Religious Education |
| Church History | Theology |

The student will also elect one Senior Seminar. The seminar will carry credit of two semester hours. Free electives in suff.cient amount to complete 90 hours for graduation will be taken.

## ADMINISTERING THE NEW CURRICULUM

For the administration of the new curriculum the following regulations have been adopted:

Full-time students will take the core required courses as specified for the respective semesters, being limited to the amount of free elective work indicated in each term. The only exceptions are as specified in the provision for languages.

Since the four-day-a-week schedule of required courses and the free week-ends have been planned with special reference to the needs of students holding pastoral charges, the limitation of nine hours of class work
has been changed to permit, but not require, such students to carry the total of hours of the core requirements for the first four semesters, but free electives may not be taken until all the core requirements have been fulfilled. A student who does not do creditable work will be required to reduce his schedule.

The status of "special student" may not be granted simply to permit avoidance of the schedule of core required courses. Every request for this classification will be carefully investigated and approval roted in each case by the curriculum committee in the cases of students already admitted to the Divinity School, and by the admissions committee in the case of applicants for admission as "special students."

Students working under the Duke Endowment, and others holding charges, are required to take one of the Field Work seminars. This work will be taken in the second semester of the first year. Unless taken at that spot, such seminars will be charged against the "free elective" allowance of later terms.

For a student taking both Greek and Hebrew, the Greek may be continued in the second year by postponing one or both of the 2-hour core courses in Old and New Testament. In such cases, the Hebrew will be the free elective in that year.

A part-time student who desires to begin the study of Greek in the first year may postpone the core required course in Old or New Testament.

The Registrar will make suitable entry on the permanent record of any student who is granted permission to deviate from the core requirements in the matter of language.

## GRADING SYSTEM

Grades of Incomplete received at the end of the fall semester must be removed by the completion of the work of the course not later than March 15. Grades of Incomplete received at the end of the spring semester must be removed by October 1. If the work of the course is not completed by these dates, the grade shall be recorded as " F ."

No student shall be permitted to drop a course after the expiration of one-third the period of instruction of the course without incurring failure except for causes adjudged by the dean to be beyond the student's contro!.

The grading system of the Divinity School employs the letters E. G. S, and $F$, which have been defined in percentage equivalents as follows: $E=95-100 ; G=85-94 ; S=70-84 ; F=69$ and below. Plus and minus ralues are recognized as available in each category as: $\mathrm{E}-\mathrm{E}, \mathrm{E}+$; $\mathrm{G}-, \mathrm{G}, \mathrm{G}+; \mathrm{S}-\mathrm{S}, \mathrm{S}+; \mathrm{F}-, \mathrm{F}, \mathrm{F}+$. A student is expected to maintain an average of $S$.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF RELIGIOUS EDUCATION

The course of study leading to this degree is designed to provide training primarily for individuals desiring to become educational assistants in churches or to engage in other forms of Christian education.

Candidates for this degree must hold the degree of A.B., based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, or the equivalent of such a degree, and with academic and personal records which afford promise of competence in this area of service. The course of study will be especially useful for individuals who had one or more years of experience in religious education and desire further training. Candidates for this degree will be limited in number, and individuals interested are urged to apply for admission well in advance of the opening of the academic year. All work offered for this degree, whether in the regular year or in summer sessions, must be completed within a period of six years from the date of beginning. Only a limited amount of work may be taken in the Duke University Summer Session.

Certain prerequisite studies must have been taken by the candidate during the course of his academic training or must be secured, without credit toward the M.R.E. degree, after being admitted to the Divinity School. These are the following:

| General Psychology | 6 s.h. |
| :--- | :--- |
| Sociology, or approved equivalent <br> Biblical Studies (including work in both the Old and the <br> New Testament) | 6 s.h. |
| Nes. |  |

Thirty semester hours of academic work are required for graduation. Eighteen of the semester hours must be in the following fields:

| Religious Education | 6 s.h. |
| :--- | :--- |
| Psychology of Religion | 3 s.h. |
| Christian Ethics | 3 s.h. |
| Biblical Studies | 6 s.h. |

The candidate must also engage in practice teaching in a church school or undertake some other approved project and must submit a written report covering his practical experience. This project work and report will be under the supervision of the Department of Religious Education.

## COURSES OF INSTRUCTION*

Odd numbers indicate fall semester courses; even numbers indicate spring semester courses. Required courses of the Core Curriculum and Senior Seminars are numbered from 11 to 99. Elective courses carrying credit in the Divinity School only are numbered from 101 to 199. Courses approved for credit in both the Divinity School and the Graduate School of Arts and Sciences are numbered above 200.

## I. BIBLICAL STUDIES

## OLD TESTAMENT

11. (Formerly 203.) Introduction to the Old Testament.-The origin, literary forms, and contents of the books of the Old Testament in their geographical and historical setting. 4 s.h.

Mr. Stinespring
12. (Formerly 204.) Psalms, Wisdom Literature, and the Problem of Theodicy.-2 s.h.

Mr. Brownlee
201-202. First Hebrew.-The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h.

Mr. Stinespring
205-206. Elementary Arabic.-No prerequisite, but one year of Hebrew recommended as preparation. 6 s.h.

Mr. Stinespring
[Not offered in 1950-1951]
207-208. Second Hebrew.-Second Samuel the first semester and the St. Mark's Isaiah Scroll the second semester. 6 s.h.

Mr. Brownlee
301. The Religious Thought of Post-Exilic Judaism.-A study of the development of religious ideas in Post-Exilic Judaism. Prerequisite: O.T. 11. 3 s.h.

Mr. Brownlee
304. Aramaic.-A study of the Aramaic portions of the Old Testament, and selected passages from the Targums, Midrashes, and Talmuds. 3 s.h.

Mr. Stinespring
305. Third Hebrew.-A study of the late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. 3 s.h. Mr. Stinespring [Not oftered in 1950-1951]
306. Advanced Hebrew.-A course on the Dead Sea Scrolls. 3 s.h.

Mr. Brownlee
307. Syriac.-A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h.

Mr. Stinespring [Not offered in 1950-1951]
309. History of the Ancient Near East.-A specialized study of the civilizations of Egypt, Palestine, Syria, and Mesopotamia from the standpoint of Biblical archeology. 3 s.h.

Mr. Brownlee

[^28]310. Old Testament Prophecy.-A study of the ethical and religious teachings of the Old Testament with special reference to the prophets of the eighth century B.C. Prerequisite: O.T. 11. 3 s.h.

Mr. Stinespring
*History of Art 215. Religious Art of the Ancient Near East.-A specialized study of the development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part Syria and Palestine to the Persian conquest. 3 s.h. Mr. Mariman
*History of Art 216. Religious Art in the Classical World.-A specialized study of the religious art, particularly architecture and sculpture, of Greece and Rome with special emphasis on the monuments in the Near East. 3 s.h.

Mr. Markman

## NEW TESTAMENT

(A statement will be published in September listing the New Testament courses to be offered in 1950-1951.)
18. (Formerly 213.) Early Christian Life and Literature.-A basic study of the civilization in which Christianity began: the origin and development of the Christian Church and its literature through the second century. 4 s.h.

Mr. Clark
19. (Formerly 214.) Introduction to New Testament Theology.-A constructive analysis and exposition of the positive doctrinal content of the New Testament. Prerequisite: N.T. 18. 2 s.h.

Mr. Young
103-104. (Formerly 211-212.) Hellenistic Greek.-Designed for beginners to enable them to read the Greek New Testament. 6 s.h., provided the student takes two additional semester hours in New Testament Greek. Mr. Young
105. (Formerly 219.) Life of Paul.-A study of Paul's life on the basis of Acts and the letters of Paul, emphasizing the permanent values in Paul's work and his contribution to the world. 3 s.h.

Mr. Myers
109. (Formerly 216.) History of the English Bible.-A general study of the history of the English version with comparison and evaluation of the numerous contemporary translations. This development will be illustrated from the Divinity School Bible collection, with access to and examination of the original editions. 3 s.h.

Mr. Clark
217. The New Testament in Greek.-Extensive reading of the Greek text of the New Testament with special emphasis upon its interpretation. Prerequisite: six semester hours' study of the Greek language. 2 s.h. Mr. Clark
218. Galatians and I Corinthians.-A detailed study of two of Paul's major epistles. The course will be based on the Greek text. Prerequisite: six semester hours' study of the Greek language. 2 s.h. Mr. Clark
220. I Peter and the Gospel of John.-A detailed study of two of the nonPauline writings of the New Testament. The course will be based on the Greek text. Prerequisite: six semester hours' study of the Greek language. 2 s.h.

Mr. Clark
311. The Life and Teachings of Jesus.-Prerequisite: N.T. 18. 3 s.h. Mr. Clark
312. Advanced New Testament Theology.-An examination of the problems integral to the systematic interpretation of New Testament Theology with a critical evaluation of past and present representative investigations in this field. Prerequisite: N.T. 19. 3 s.h.

Mr. Young

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

313. Apostolic Fathers.-A study of the Christian development from Clement of Rome to Polycarp, with readings in the Greek text. Prerequisite : N.T. 18. 2 s.h.

Mr. Clark
314. (Formerly 317.) Patristic Thought.-A study of the development of early Christian doctrine to the period of Augustine. Prerequisite: N.T. 19. 3 s.h.

Mr. Yolng
316. Hellenistic Religions.-A study of the Gentile religions in the Roman Empire, at the beginning of the Christian era. Prerequisite: N.T. 18. 3 s.h.

Mr. Clark
317. (Formerly 320.) The Synoptic Gospels.-A detailed study of their characteristics and contents, with attention to their respective sources and to the development of synoptic criticism. Prerequisite: N.T. 18. 3 s.h.

Mr. Clark
318. Text of New Testament.-A study of the materials for the reconstruction of the text, the principles of textual criticism, and the history of the text. Practical exercises in the use of manuscripts and facsimiles will be given. Prerequisite: N.T. 18 and a reading knowledge of Greek. 3 s.h. Mr. Clark
319. Intellectual Environment of Early Christianity.-A study of the classical ideas which dominated life in the Graeco-Roman world in the first three centuries A.D., with particular reference to their influence on Christian thought. Prerequisite: N.T. 19, or permission of the instructor. 3 s.h.

Mr. Loung
*Greek 257.-The social and cultural history of the Hellenistic world from Alexander to Augustus. 3 s.h. Mr. Rogers
*Latin 258.-The social and cultural history of the Graeco-Roman world. 3 s.h.

Mr. Rogers

## II. HISTORICAL STUDIES

## history of religion and missions

15. (Formerly 281.) Living Religions of the World.-A survey of the religious systems of India, China, and Japan, followed by a study of Judaism, Mohammedanism, and Christianity, the object being to trace the historical development of each religion. 3 s.h.

Mr. Cannon
24. (Formerly 282.) Missions.-The history and philosophy of the missionary enterprise. 2 s.h.

Mr. Canvon
108. (Formerly 284.) Comparative Religion I.-The ideas of God, sin, and salvation in the religions of the world. Prerequisite: H.R. 15. 3 s.h.

Mr. Cannon
110. (Formerly 286.) Comparative Religion II.-Ideas of the future life and ethical and social ideals in the religions of the world. Prerequisite: H.R. 15. 3 s.h.

Mr. Canyon
[Not offered in 1950-1951]
112. (Formerly 288.) The Religions of India.-A study of present-day religious movements in India, with special reference to Hinduism. 3 s.h.
[Not offered in 1950-1951] Mr. Canvon
113. (Formerly 283.) The Religions of the Far East.-A study of the religious systems of China and Japan. 3 s.h. Mr. Cannor
[Not offered in 1950-1951]

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

115. (Formerly 289.) Buddhism.-India at the rise of Buddhism. Life of the Buddha and the teachings of early Buddhism. Development into the Hinayana and Mahayana schools, its spread and present condition in southern and eastern Asia. Prerequisite: H.R. 15. 2 s.h.

Mr. Cannon
[Not offered in 1950-1951]
117. (Formerly 287.) Mohammedanism.-The life of Mohammed and the religion of Islam, special attention being given to the Koran and its teachings. The aim is to interpret Mohammedanism as a force today. Prerequisite: H.R. 15. 2 s.h.

Mr. Cannon

## CHURCH HISTORY

13. (Formerly 233.) History of the Pre-Reformation Church.-A survey to the sixteenth century in terms of spiritual genius, organizational development, great literature, and representative movements. 4 s.h.

Mr. Petry
14. (Formerly 234.) History of the Reformation and Post-Reformation Church.-Selected studies in the evangelical revival of Luther, Calvin, and the English Reformers, as related to the Catholic Counter-Reformation and the contemporary European church. 2 s.h.

Mr. Petry
136. (Formerly 337.) Pre-Reformation Preaching.-Sermons, handbooks, and other historical sources studied in relation to Biblical preaching and the liturgical church, the problem of popular ministry and the issues of Christian reform. Prerequisite: C.H. 13. 2 s.h.

Mr. Petry
[Not offered in 1950-1951]
137. (Formerly 336.) Religious Leaders in Christian History.-Representative leaders in the early and medieval church studied in relation to contemporary churchmanship. Prerequisite: C.H. 13. 2 s.h. Mr. Petry
138. Great Books in Christian History.-An intensive study of Augustine's Confessions, Thomas Kempis' Imitation of Christ, Erasmus' Complaint of Peace, Luther's Christian Liberty, Calvin's Instruction in Faith, and Andrewes' Prizate Deãotions. 3 s.h.

Mr. Petry
[Not offered in 1950-1951]
139. (Formerly 339.) Methodism.-A study of Methodist societies in England and the developing church in America as they gave rise to such historic issues as polity, education, division, and reunion. Prerequisite: C.H. 13. 2 s.h.
[Not offered in 1950-1951]
Mr. Petry
330. The Church in Europe since 1800.-Emphasis is placed on the relation of the church to the social, economic, and political life of Modern Europe. Particular attention is given to Papal pronouncements on social issues, the relationship of Eastern to Western institutions, and ecclesiastical historiography as it involves source editions, periodicals, and ecumenical literature. 3 s.h.

Mr. Petry
[Not offered in 1950-1951]
331. The Social Message of the Early and Medieval Church.-A study of the social teachings and contributions of the Christian Church prior to the Protestant Reformation. Prerequisite: C.H. 13 and 14. 3 s.h. Mr. Petry
332. The Medieval Church.-Outstanding characteristics of the Medieval Church, emphasizing theory, polity, institutions, sacraments, and worship. Prerequisite: C.H. 13 and 14.3 s.h.

Mr. Petry
334. Church Reformers and Christian Unity.-The work of such reformers as Marsilius of Padua, William of Ockham, John Gerson, Pierre d'Ailly and Nicholas of Cusa in relation to ecclesiastical schism and the search for Christian unity through representative councils. Prerequisite: C.H. 13 and 14. 3 s.h.
[Not offered in 1950-1951]
Mr. Petry
336. (Formerly 333.) A History of Christian Renunciation in the Middle Ages.-A study of the renunciatory ideal and of spiritual practices with special reference to Benedictines, Franciscans, Lowland mystics, and leading seculars. Prerequisite: C.H. 13 and 14. 3 s.h.

Mr. Petry
[Not offered in 1950-1951]

## AMERICAN RELIGIOUS THOUGHT

28. (Formerly 296.) Movements in American Religious Thought.-Beginning with the English Reformation, this course introduces the leading types of Protestantism transplanted to or developed within colonial America, primary emphasis being placed upon the dominant modes of Christian thought. 3 s.h.

Mr. Smith
395. Religious Thought in Colonial America.-Examination of the principal types of Protestant thought in colonial culture. 3 s.h. Mr. Smith
396. American Religious Thought in the Nineteenth Century.-Comparative exposition of the chief cross-currents between Orthodoxy and Liberalism. 3 s.h.

Mr. Smith
397. Current American Theology.-Critical appraisal of conflicting modes in American theological thought. 3 s.h.

Mr. Smith
398. Modern American Christology.-An analysis of the historical development of modern American conceptions of the person and work of Christ. A seminar for advanced students. 3 s.h.

Mr. Smith
[Not offered in 1950-1951]
399. Social Thought in American Christianity.-A study of Christian social thought in America since 1850. 3 s.h.

Mr. Smith
[ Not offered in 1950-1951]
495. Seminar: Jonathan Edwards and John Wesley.-A comparative study of the major theological writings of Edwards and Wesley. 2 s.h. Mr. Smith
496. Seminar: William James and John Dewey.-A critical study of the philosophical and religious thought of James and Dewey. 2 s.h. Mr. Smith

## III. THEOLOGICAL STUDIES

## PHILOSOPHY OF RELIGION

119. (Formerly 229.) Introduction to Philosophy of Religion.-A general course: introduction to major philosophies of religion; relation to science, philosophy, art, morality, and tradition; criteria of validity, formulation of a philosophy of religion. 2 s.h.

Mr. Bosley
[Not offered in 1950-1951]
121. Philosophy of Contemporary Theism.-A general course : the various forms of contemporary theism will be studied and evaluated. 2 s.h.
[Not offered in 1950-1951]
Mr. Bosley
122. The Philosophy of Naturalistic Theism.-A seminar; a study of the metaphysics, epistemology, logic, and theory of value of the most recent attempt to formulate a structure of Christian theism. Prerequisite: consent of instructor. 2 s.h.

Mr. Bosley
[Not offered in 1950-1951]
123. Theories of Value: A General Course.-A comparative study of the major theories of value advanced in contemporary philosophy. 2 s.h.
[Not offered in 1950-1951] Mr. Bosley
124. The Philosophy of Personalism.-A seminar; a study of the metaphysics, epistemology, logic, and theory of value of the personalist tradition in Christian thought. Prerequisite : consent of instructor. 2 s.h. Mr. Bosley [ Not offered in 1950-1951]
382. Religious Knowledge.-A seminar; a critical investigation of the source, nature, and validity of religious knowledge involving reference to the relation of revelation to reason and scientific methodology in knowledge. Prerequisite: P.R. 119 or consent of instructor. 2 s.h.

Mr. Bosley
[Not offered in 1950-1951]

## CHRISTIAN THEOLOGY

20. (Formerly 221.) Introduction to Christian Theology.-Contemporary theological tendencies, method and theory of knowledge, and introductory interpretation of the principal tenets of the Christian faith. 4 s.h.

Mr. Cushman
21. (Formerly 222.) Introduction to the History of Christian Doctrine.The chief theological controversies, church creeds and confessions in the history of Christian thought from the anti-gnostic fathers to the year 1576. Prerequisite: C.T. 20. 2 s.h.

Mr. Cushman
107. (Formerly 329.) The Person and Work of Christ.-An intensive examination of classical types of christological and soteriological formulation in the history of Christian reflection, assessment and constructive position. Prerequisite: C.T. 20. 2 s.h.

Mr. Cushman
[Not offered in 1950-1951]
224. (Formerly 323.) Conceptions of Man in Western Thought.-Analysis and interpretation of representative types of theological and philosophical theory concerning man with attention to the import for Christian theism and theory knowledge. 3 s.h.

Mr. Cushman
321. Platonism and Christianity.-A seminar in Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. Prerequisite: permission of instructor. 3 s.h. Mr. Cushman
322. Theology and Philosophy in the Nineteenth Century.-A study of Protestant thought from Kant and Schleiermacher to Troeltsch together with representative British theologians, with attention to the reciprocal relations between theology and contemporary epistemology and metaphysics of the period. Prerequisite: C.T. 20. 2 s.h.

Mr. Cushman
325. Philosophical Theology I.-Analysis and critique of dominant types of contemporary world-views for the formulation of the problem of philosophical theology together with main problems in the history of philosophical theology. Prerequisite: C.T. 20. 3 s.h.

Mr. Cushman
[Not offered in 1950-1951]
326. Philosophical Theology II.-Historical and constructive approach to the function of faith and reason in the knowledge of God. 3 s.h.
[Not offered in 1950-1951] Mr. Cushman
328. (Formerly 321B.) Seminar in Twentieth-Century Continental and British Theology.-Critical examination of the thought of Barth, Brunner, Berdyaev, Maritain, F. R. Tennant, and William Temple. 3 s.h.

Mr. Cushman
329. Seminar in Historical Theology.-Selected problems in the history of Christian doctrine. Prerequisite: C.T. 21. 3 s.h.

Mr. Cushman
See also New Testament 312.-Advanced New Testament Theology. christian ethics
27. (Formerly 291.) Christian Ethics I.-The central assumptions and principles of the Christian conception of the good life. 3 s.h. Mr. Beach
114. (Formerly 292.) Christian Ethics II.-The application of Christian ethics to life in modern society with particular emphasis on the ethical problems of the typical American community. Prerequisite: C.E. 27. 3 s.h.

Mr. Beach
391. Historical Types of Christian Ethics I.-A critical study of representative documents of Christian ethical theory, up to the Reformation. Prerequisite: C.E. 27 or its equivalent. 3 s.h. Mr. Beach
392. Historical Types of Chrisitan Ethics II.-A continuation of C.E. 391, covering the Reformation and current Christian ethical theory. Prerequisite: C.E. 391. 3 s.h.

Mr. Beach
393. The Christian Interpretation of History.-A comparative examination of the chief secular and Christian theories of history current in Western thought. For advanced students. Prerequisite: C.E. 27. 3 s.h. Мr. Вeach
394. Christianity and the State.-The relation of the Christian theory of the State to political problems with special consideration of the religious assumptions underlying democratic theory and practice. Prerequisite: C.E. 27. 3 s.h. Mr. Beach
*238 Race and Culture.
*249. Child Welfare.
*250. Marriage and the Family.
*276. Criminology.
*382. History of Sociological Theory.

Mr. Thompson Mr. Jensen
Mr. Hart Mr. Jensen Mr. Jensen

## PSYCHOLOGY OF RELIGION

22. (Formerly 271.) Psychology of Religion.-An analysis of the major factors in religious experience. 3 s.h. Mr. Hickman
23. (Formerly 272.) Advanced Psychology of Religion.-An intensive study of the foundations and presuppositions of religious experience. 3 s.h.

Mr. Hickman
127. (Formerly 373.) Psychology of Preaching.-A psychological study oi the preaching motive and preaching relationships. 2 s.h.

Mr. Hickman
128. (Formerly 374.) Pastoral Psychology.-Study of psychological problems and principles involved in pastoral work. 2 s.h. Mr. Hickman
129. (Formerly 375.) Genetic Psychology of Religion.-A study of the religious experience of childhood and youth. 3 s.h. Mr. Hichman
[Offered in the second semester]
130. (Formerly 376.) Studies in Mysticism.-An examination of the mystical aspect of religious experience. 3 s.h.

Mr. Hickman
[Not offered in 1950-1951]

## IV. PRACTICAL STUDIES

The Core Curriculum sequence, Consolidated Course in Christian Leadership, comprises the following courses in the Division of Practical Studies, each of which is listed in its appropriate department:
P.T. 23. Church Administration I.-2 s.h.
R.E. 25. Educational Theory and Practice in the Church.-2 s.h.
H.R. 24. Missions.-2 s.h.
P.C. 26. Introduction to Pastoral Care.-2 s.h.

PRACTICAL THEOLOGY
23. (Formerly 252.) Church Administration I.-An introduction to the administrative and supervisory procedure essential in the total work of the church. 2 s.h. Mr. Walton

- Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity. For a description of the course, see the catalogue of the Graduate School.

142. (Formerly 253.) Field Work I-General.-A course designed to help with personal and parish problems, and the techniques of successful service. 1 s.h. (Note: All students engaged in any type of field work are required to take this course, or 144, Field Work II, or 146, Field Work III.) Mr. Walton
143. (Formerly 254.) Field Work II-Rural.-This course is designed to prepare students for work in rural churches. It emphasizes the training values in field work. 1 s.h. Mr. Walton
144. Field Work III-Urban.-This course is designed to prepare students for work in urban churches. It is planned to help the students fit into the urban situation and to gain the most from his field work. 1 s.h. Mr. Walton
145. Church Administration II.-This course considers the principles of program planning, policy development, and leadership enlistment and training in the church. 2 s.h.

Mr. Walton
147. The Urban Community and Its Church.-A study of the urban community and the church in its midst. 2 s.h.

Mr. Walton
[Not offered in 1950-1951]
148. Church Finance.-A seminar to consider the principles of budget making, stewardship instruction, and every member enlistment in church support. 1 s.h.

Mr. Walton
149. Parish and Community Research and Analysis.-A seminar to consider the techniques of community surveys, research, and analysis. Attention is given to the use of research data in program planning and in checking on the effectiveness of church work. 1 s.h.

Mr. Walton
150. The Rural Pastor and His Work.-A study of the qualifications of the rural pastor and his task. Attention is given to the supervisory methods and materials available for the pastor's use. 2 s.h. Mr. Walton
151. (Formerly 353.) The Rural Church.-A study of rural conditions and the place of the church as a community institution. 2 s.h.

Mr. Walton
152. (Formerly 354.) Parish Evangelism.-A study seeking to prepare the student to plan a comprehensive and continuous program of evangelism for the local church. 2 s.h.

Mr. Walton
[Not offered in 1950-1951]
153. Church Management and Supervision.-A seminar to consider problems and situations met in local church management and supervision. 1 s.h. Mr. Walton
154. (Formerly 356.) The Urban Church.-A study of the functions of the church in towns and cities with special attention to changing city conditions. 2 s.h. Mr. Walton
[Not offered in 1950-1951]
155. (Formerly 357.) Church Polity: Comparative and Denominational.This is a study of the polity of the different denominations in which the students may serve, based upon the disciplines and practices of the respective denominations. 2 s.h.

Mr. Walton and Others
(The plan of this course is for the class to meet as a unit one hour a week for the study of the common interests of the denominations; for the other hour the class is divided into groups on the following plan:
a. The Polity of the Methodist Church.-The study will be based upon the Methodist Discipline.
b. The Polity of the Baptist Churches.
c. The Polity of the Congregational-Christian Churches.
d. The Polity of the Presbyterian Churches.

Courses in the polity of other churches will be arranged as needed.)
157. Rural Community and Church Trends.-A seminar to evaluate the current trends in rural life and their influence upon church work. 1 s.h.

Mr. Walton

## RELIGIOUS EDUCATION

25. (Formerly 261.) Educational Theory and Practice in the Church.-An over-all and introductory view of the educational functions of the church. Consideration is given to the work of organization, administration and supervision of the church school. 2 s.h.

Mr. Spexce
161. Theories, Types and Techniques of Teaching.-A study of the main principles underlying religious teaching with an examination of the different methods of teaching. 2 s.h. Mr. Spence
162. (Formerly 262.) Methods and Materials of Religious Education.-A consideration of the principal administrative problems of the church school, of the various concepts of the curriculum, and an examination of existing curricula, their nature, use and value. 3 s.h.

Mr. Spence
163. (Formerly 363.) Worship and Drama.-Worship in its bearings upon the educational functions of the Christian religion. The use of drama in religious education with the creation of dramatic programs of worship and drama writing and production. 3 s.h.

Mr. Spence
164. Religious Education of Children and Adolescents.-The course will consider religious education of children and youth on the various age levels from the nursery school through high school. 2 s.h.

Mr. Spence
[Not offered in 1950-1951]
166. Religious Education of Young People and Adults.-This course will be concerned with a study of young people as well as mature persons from a standpoint of meeting their needs and continuing their religious development. 2 s.h.

Mr. Spence
168. (Formerly 366.) The Educational and Spiritual Values of Great Lit-erature.-A study of Biblical and other great literature from the standpoint of their teaching values; analysis of material with reference to needs, interests, and capacities of various age groups. Correlation of Biblical and extra-Biblical material with a view to its adaptability for teaching and preaching purposes. 3 s.h.

Mr. Spence
365. History of Religious Education in Modern Times.-A critical study of the historical movements in religious education since the Reformation with special consideration of the American development. 3 s.h. Mr. Spence
[Not offered in 1950-1951]
368. Theories of Religious Education.-A critical investigation of current theories of Religious Education. 3 s.h.

Mr. Spence
[Not offered in 1950-1951]

## PASTORAL CARE

26. (Formerly 251.) Introduction to Pastoral Care.-A study of the background, needs and methods of pastoral work and personal counseling. Second semester. 2 s.h.

Mr. Dicks
171. (Formerly 255.) Pastoral Care Practicum I.-A study of pastoral calls and interviews. Particularly for students serving churches or working in clinical situations. Prerequisite: P.C. 26 or consent of instructor. 2 s.h.
[Not offered in 1950-1951]
Mr. Dicks
172. (Formerly 256.) Pastoral Care Practicum II.-Advanced pastoral care for students serving churches or working in clinical situations. Prerequisite: P.C. 26 or P.C. 171. 2 s.h. Mr. Dicks
[Not offered in 1950-1951]
173. Religion and Health.-The study of the relation of body and mind and of the religious resources for health through counseling and worship. Prerequisite: P.C. or consent of instructor. 2 s.h.

Mr. Dicks
174. Personal Counseling.-A study of formal personal counseling for those going into the ministry, religious education, and work with college students. 2 s.h. Mr. Dichs
175. (Formerly 351.) The Literature of Pastoral Care.-Directed reading and seminar discussion of writings in the field of psychiatry, psychology, sociology, social work, the ministry, and other fields as they relate to pastoral care. Prerequisite: consent of instructor. 2 s.h.

Mr. Dicks
176. Pastoral Care and Social Work.-Lectures by various specialists and risits to social agencies to orient the minister in relation to other specialists working with individuals and to familiarize him with social service resources. 2 s.h.

Mr. Dicks
[Offered in the first semester]
177. Advanced Seminar in Pastoral Care.-For students preparing for full time pastoral ministry, hospital chaplaincy, industrial chaplaincy, ministry to older people, or work with young people. Practicum. Prerequisite: P.C. $\overline{2} 6$ or consent of instructor. Offered each semester. 2 s.h. Mr. Dicks

## PREACHING

29-30. Sermon Construction-Theory and Practice.-An investigation of the theory of practicing (first semester). Detailed work in practice preaching and a clinical session each week on the application of theory (second semester). In the second semester, Mr. Rudin will assist. 4 s.h. Mr. Cleland
181. (Formerly 244.) Practical Problems in Preaching.-Analysis of selected sermons and discussion of problems facing the preacher in the pulpit. Prerequisite: Pr. 29 and 30. 2 s.h.

Mr. Cleland
[Not offered in 1950-1951]
183. (Formerly 346.) Materials of Preaching-Biblical.-The problem of authority in the Bible and an evaluation of selected portions of the Bible for present-day preaching. 2 s.h.

Mr. Cleland
[Not offered in 1950-1951]
185. (Formerly 348.) Materials of Preaching-Non-Biblical.-An evaluation of great literature-drama, poetry, biography, fiction-from the point of view of its value for modern preaching. 2 s.h.

Mr. Cleland

## See also: C.H. 136. Pre-Reformation Preaching. Psy.R. 127. Psychology of Preaching.

## PUBLIC WORSHIP

178. (Formerly 355.) Public Worship.-The theory and practice of the worship of the Church: an analysis of the rites and ceremonies in "The Book of Worship." 3 s.h.

Mr. Cleland and Mr. Rudin
180. (Formerly 358.) Church Music.-A study of hymnology, song leading, and problems of the modern church choir. 2 s.h.

Mr. Barnes

## SPEECH

17. (Formerly 241.) Effective Speaking.-Fundamentals of preparation and delivery to develop effectiveness in private and public speech. Individual conferences. (Students electing Vocational Group I will, upon recommendation of the instructor, take Speech 132 also.) 2 s.h.

Mr. Rudin
132. (Formerly 242.) Public Speaking.-Composition and delivery, based upon individual needs. Selection and arrangement of materials, principles of persuasion, intensive practice in delivery. Individual conferences. 2 s.h.

Mr. Rudin
(For the academic years, 1949-50 and 1950-51, students who have not taken Speech 17 will satisfy the requirement in Speech by taking this course.)
134. (Formerly 246.) Oral Interpretation of Literature.-A course for advanced students designed to develop effectiveness in interpreting the Bible and other commonly used materials of public worship. Individual conferences and drill sections to be arranged. Prerequisite: Speech 17. 2 s.b.

Mr. Rudin
[Not offered in 1950-1951]

## V. SENIOR SEMINARS

In the third year each B.D. candidate will take one Senior Seminar, yielding 2 s.h. credit. No student may enroll in more than one Senior Seminar a semester nor receive credit for more than two such Seminars. Juniors and Middlers are not eligible for credit. Senior Seminars will not yield Graduate credit.

Enrollment in each Senior Seminar is limited to 12 to 15 students. No Senior Seminar need be conducted for an enrollment of less than 3 to 5 students. Each Senior Seminar will be in charge of a Chairman. Not less than two nor more than four instructors will participate in each Seminar. General supervision of all Senior Seminars will be exercised by a standing committee of the faculty.

The work done in each Senior Seminar should be equivalent to that done in a normal 2 s.h. course, with reading based upon a prepared reading list and a substantial paper or written project report. It is contemplated that the list of Senior Seminars will probably be changed after the first year and such changes will be approved by the faculty on recommendation of the standing committee on Senior Seminars.
B.D. students planning to graduate in 1950-1951 will, as previously voted by the faculty, have the option of graduating with a major and thesis.

## First Semester

61. The Christian Faith and Its Proclamation.-2 s.h.<br>Mr. Cushman, Mr. Cleland, Mr. Rudin<br>63. The Ecumenical Movement in the Modern Church.-2 s.h.<br>Mr. Smith, Mr. Cannon, Mr. Cushman<br>65. Biblical Archaeology.-2 s.h.<br>Mr. Clark, Mr. Brownlee<br>Second Semester<br>62. Western Christianity and Non-Christian Faiths.-2 s.h.<br>Mr. Petry, Mr. Cannon, Mr. Hickman<br>64. The Old Testament as Materials of Teaching.-2 s.h.<br>Mr. Spence, Mr. Stinespring, Mr. Myers<br>66. The Christian Church and Social Change.-2 s.h.<br>Mr. Beach, Mr. Smith, Mr. Petry<br>68. Christian Experience and Contemporary Church Life.-2 s.h.<br>Mr. Hickman, Mr. Walton, Mr. Myers

# BULLETIN OF <br> DUKE UNIVERSITY 

# The Graduate School of Arts and Sciences 

ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N. C.
For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary, Duke University, Durham, N. C.
For Bulletin of The Graduate School of Arts and Sctences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.
For Bulletin of The School of Law, apply to The Dean of the School of Lave, Duke University, Durham, N. C.
For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing. Duke University, Durham, N. C.
For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

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# BULLETIN <br> OF <br> Duke University 

THE GRADUATE SCHOOL OF ARTS AND SCIENCES



1949-1950
ANNOUNCEMENTS FOR 1950-1951


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## CALENDAR OF THE GRADUATE SCHOOL

## SUMMER SESSION

## 1950

June 13 Tuesday-Registration of students for Summer Session, first term.
June $\quad 14$ Wednesday-Instruction begins for Summer Session, first term.
July 5 Wednesday-Registration of students for second term of Summer Session.
July 6 Thursday-Instruction begins for second term of Summer Session.
July 17-22 French examinations for candidates for graduate degrees. Candidates register in the Graduate School Office not later than July 10.
July 22 Saturday-Registration of students for third term of Summer Session.
July 22 Saturday-First term of Summer Session ends.
July $2 f$ Monday-Instruction begins for third term of Summer Session. Aug.

12 Saturday-Second term of Summer Session ends.
Aug.

Sept. 18-20 Monday through Wednesday-Registration of graduate students for first semester.
Sept. 20 Wednesday, $11: 00$ A.m.-Formal opening of the University.
Sept.
21 Thursday-Instruction begins.
Oct. 2-7 French examinations for candidates for graduate degrees. Candidates register in the Graduate Office for these examinations not later than September 25.
Oct. 9-14 German examinations for candidates for graduate degrees. Candidates register in the Graduate Office for these examinations not later than October 2.
Oct. 16 Monday-Last day for submitting thesis subjects for the degree of Doctor of Philosophy.
Nov. 15 Wednesday-Last day for submitting thesis subjects for the degrees of Master of Arts and Master of Education.
Nov.
Dec.
Dec.
1951
Jan. 4 Thursday, 8:00 A.m.-Instruction is resumed.
Jan. 4-13 Reading period.
Jan. 10-13 Wednesday through Saturday-Registration of resident graduate students for second semester.
Jan. 17 Wednesday-Mid-year examinations begin.
Jan.
27 Saturday-Mid-year examinations end.
Jan. 29-30 Monday and Tuesday-Registration for second semester of students not in residence during first semester.

Jan. 31 Wednesday-Second semester begins.
Feb. 20-24 French examinations for candidates for graduate degrees. Candidates register in the Graduate School Office for these examinations not later than February 10.
March 1 Thursday-Last day for applying for University fellowships. graduate assistantships, and graduate scholarships.
March 15 Thursday-Students who expect to receive advanced degrees in June must notify the Graduate Office before this date.
March 12-17 German examinations for candidates for graduate degrees. Candidates register in the Graduate Office for these examinations not later than March 5.
March 24 Saturday-Spring vacation begins.
April
2 Monday, 8:00 A.m.-Instruction is resumed.
April 16 Monday-Last day for submitting theses for degree of Doctor of Philosophy.
May
1 Tuesday-Last day for paying special dissertation fee of $\$ 50.00$ required of candidates for degree of Doctor of Philosophy.
May 1 Tuesday-Last day for submitting theses for degrees of Master of Arts and Master of Education.
May $10-19$ Reading period.
May
21 Monday-Final examinations, second semester, begin.
May 31 Thursday-Final examinations, second semester, end.
June 2 Saturday-Commencement begins.
June 3 Sunday-Commencement sermon.
Tune 4 Monday-Commencement address; Graduating exercises.

## 1950

| JANUARY |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
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## 1951

| JANUARY |  |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
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| FEBRUARY |  |  |  |  |  |  | MAY |  |  |  |  |  |  | AUGUS'T |  |  |  |  |  |  | NOVEMBER |  |  |  |  |  |  |
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| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 19 | 20 |  |  | 23 | 24 | 25 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
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| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 23 30 |  |  |  |  | 28 | 29 | 23 30 | 24 31 |  |  |  |  | 29 |

## OFFICERS OF ADMINISTRATION

Edens, Arthur Hollis, B.Ph., A.M., M.P.A., Ph.D., LL.D. President of the University

West Campus
Flowers, Robert Lee, A.M., LL.D. Chancellor of the University West Campus
Wannamaker, William Hane, A.B., A.M., Litt.D. Vice-Chancellor of the University

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Hope Valley
Jordan, Charles Edward, A.B., LL.D. Vicc-President in the Division of Public Rclations and Secretary of the University

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112 Buchanan Boulevard

> EXECUTIVE COMMITTEE OF THE GRADUATE SCHOOL COUNCIL
> PAUL MAGNUS GROSS, B.S., A.M., Ph.D.
> Dcan of the Graduate School of Arts and Sciences, ex officio
> IRVING EMERY GRAY, B.S., M.S., Ph.D.
> WILLIAM HENRY IRVING, B.A., B.A. (Oxon.), M.A., Ph.D. GLENN NEGLEY, A.B., M.A., Ph.D.
> WALTER MeKINLEY NIELSEN, B.S. in E.E., Ph.D, BENJAMIN ULYSSES RATCHFORD, B.S., A.M., Ph.D. CHARLES SACKETT SYDNOR, A.B., Ph.D., Litt.D.

## INSTRUCTIONAL STAFF

## MEMBERS OF THE GRADUATE SCHOOL COUNCIL

The date denotes the first year of service at Duke University.
Adams, Donald Keith, (1931) A.B., M.A., Ph.D. Professor of Psychology

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* Resigned, June 30, 1949.

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$\dagger$ Hoover, Calvin Bryce, (1925) A.B., Ph.D., Litt.D. Professor of Economics 1702 Duke University Road
$\dagger$ Hubbell, Jay Broadus, (1927) A.B., A.M., Ph.D.
Professor of American Literature 121 Pinecrest Road
Irving, William Henry, (1936) B.A., B.A. (Oxon.), M.A., Ph.D.
Professor of English 2707 Legion Avenue
*Jensen, Howard Eikenberry, (1931) A.B., A.M., B.D., Ph.D.
Professor of Sociology 143 Pinecrest Road
Jordan, Brady Rimbey, (1927) Litt.B., Ph.D. Professor of Romance Languages

117 Pinecrest Road
Koch, Sigmund, $(1942,1948)$ A.B., A.M., Ph.D. Associate Professor of Psychology

2921 Horton Road
Korstian, Clarence Ferdinand, (1930) B.S.F., M.F., M.A., Ph.D. Professor of Silviculture 1718 Duke University Road
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2251 Cranford Road
Kuder, G. Fpederick, (1948) A.B., A.M., Ph.D. Professor of Psychology
Lanning, John Tate, (1927) A.B., A.M., Ph.D. Professor of History
Laprade, William Thomas, (1909) A.B., Ph.D. Professor of History

1108 Monmouth Avenue

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$\dagger$ Absent on sabbatical leave, second semester, 19+9-50.
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$\dagger$ Leonard, Henry Siggins, (1937) A.B., A.M., Pli.I). Associate Profcssor of Philosophy

107 Pinecrest Road
Lonion, Frederick, (1938) Ph.D., Sc.D. Professor of Thcorctical Chemistry

1508 Oakland Avenue
Lundiolm, Helge, (1930) Fil. Kand., Fil. Lic., Plı.D. Professor of Psychology

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2217 Club Boulevard
Neurath, Hans, (1938) Ph.D. Profcssor of Physical Biochemistry 111 Pinecrest Road
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1111 North Mangum Street
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Professor of Physics
139 Pinecrest Road
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2642 University Drive
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Petry, Ray C., (1937) A.B., A.M., Ph.D., LL.D. Professor of Church History

128 Pinecrest Road
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2106 Myrtle Drive
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1107 Knox Strect
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133 Pinecrest Road
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1102 B Strect
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$\div$ Resigned, September 1. 1949.
$\ddagger$ Died, December 10, 1949.

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92f Urban Avenue
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2648 University Drive
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Sparger Road
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$\ddagger$ Absent on sabbatical leave, 1950-51.
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917 Green Street
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Stinespring, William Franklin, (1936) B.A., M.A., Ph.D. Professor of Old Testament

1107 Watts Street
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127 Pinecrest Road
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University Drive, Rockwood
$\dagger$ Thomson, Roy Bertrand, (1938) B.S., M.F., Ph.D. Professor of Forest Economics
Truesdale, James N., (1930) A.B., A.M.., Ph.D. Assistant Professor of Greek

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$\dagger$ Absent on sabbatical leave, first semester, 1950-51.
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Poteat, William Hardman Religion Chapel Hill, N. C. A.B., Oberlin College; B.D., Yale University

Wiles, Charles Preston Religion Brunswick, Md. B.A., Washington Cullege ; A.M., Duke University

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Alilen, William Richard Economics Chicago, Ill. B.A., Cornell College

Beatson, James Allen History Maming, S. C. A.B., A.M., Duke University

Byers, Gordon Cleaves Mathematics A.B., University of Michigan

Edwards, Margaret Jean
Political Science
Hancock, Mich.

English
Asheville, N. C.
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Boone, N. C. B.S., Appalachian State Teachers College; A.M., Duke University

Gitlin, Emmanuel Moisfyevich Keligion
Durham, N. C. B.A., Texas Christian University; B.D., Duke University

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Kyle, Joseph Burch
History
Eugene, Ore. A.B., Linfield College; A.M., University of Oregon

McLain, Robert Wayne Religion Statesville, N. C. A.B., Berea College; S.T.B., Boston University School of Theology

McPhedran, Lila Elizabeth Economics Toronto, Ontario, Canada B. of Commerce, University of Toronto

Mackey, Louis Henry, Jr. Philosophy
Sidney, Ohio A.B., Capital University

Mefks, Marion Littleton Physics
Durham, N. C. B.S., M.S., Georgia School of Technology *Absent on leave, 1949-50.

Name
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Biue, Janet S. Romance Languages A.B., Duke University

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Liles, James Robert, Jr. Education Heath Springs, S. C. A.B., Wofford College ; M.A., University of South Carolina

McCain, Paul Moffatt History Decatur, Ga. B.A., Erskine College; A.M., Duke University

Nakamura, Junichi English
B.A., Hiroshima University ; A.M., Duke University

Oliver, George Brown History Doswell, Va.
B. $\Lambda$., Randolph-Macon College

Pannill, Harry Burnell Religion
B.A., Randolph-Macon College; B.D., Duke University

Patton, Alice Lucinda History Durham, N. C. A.B., Duke University

Ratliff, Charles Edward, Jr. Economics Murven, N. C. B.S., Davidson College

Reveley, Walter Taylor Religion Memphis, Tenn. A.B., Hampden-Sydney College; B.D., Union Theological Seminary

Robertson, Patricia Ruth English Washington, D. C. A.B., Smith College

Smart, Hugh Robert George Philosophy Lachine, Quebec, Canada A.B., McGill University

Smith, Dorothy Branch Philosophy Augusta, Ga. B.S., Georgia State College for Women

Smith, Kenneth Lee Religion Exmore, Va.
A.B., University of Richmond; B.D., Crozer Seminary

Strele, Arthur Robert History Albuquerque, N. M. A.B., University of California; M.A., University of New Mexico

## RESEARCH ASSOCIATES, FELLOWS, AND ASSISTANTS

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Name
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Swamer, Frederic Wurl Appleton, Wis. B.A., Lawrence College; M.A., University of Wisconsin; Ph.D., Duke University

Allied Chemical and Dye Corporation Fellow
Cuculo, John Anthony
Durham, N. C. B.S., Brown University

Carbide and Carbon Chemicals Corporation Fellow in Organic Chemistry
Frostick, Frederick Charles, Jr.
Maxton, N. C. B.S., Duke University

Department of Army Fellow
Grantham, Raymond Jack
B.Ed., Eastern Illinois State Teachers College

Mattoon, Ill.

Myers, Richard Harold
Broadway, Va. B.S. in Chem., University of Virginia

Eli Lilly Fellow
Humphilett, Wilbert Jeptha
Agawam, Mass. A.B., M.A., Clark University General Education Board Fellow
Pitts, Anna Catherine B.A., Winthrop College ; A.M., Mount Holyoke College

## Industrial Research Fellow

Bates, Willam Wannamaker, Jr. Camden, S. C. B.S., The Citadel

Office of Naval Research Fellows
Bond, Jean
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B.Engr., University of Toledo; M.S., University of California

Johnson, Richard S.
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Man, Eugene H.
B.A., Oberlin College

Potter, John Clarkson
Durham, N. C.
B.S., University of Washington

Reynolds, George Arthur B.S., University of Florida

Tyczkowski, Edward Albert
Apponaug, R. I. B.Sc., Brown University

Weinheimer, Alfred Buffalo, N. Y. B.S., M.S., Canisius College

Research Assistant
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SCHOOL OF MEDICINE
Established Investigator, American Heart Association
Mommaerts, W. F. H. M.
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## U. S. Public Health Service Postdoctorate Fellows

Kamin, Henry Brooklyn, N. Y. B.S., The College of the City of New York; Ph.D., Duke University

Snoke, John Edward
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## Research Assistants in Biochemistry

Armstrong, Florapearl
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Drať, Arthur F. Durham, N. C. A.L., Duke University

Eisenberg, Max Aaron
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Gladner, Jules A.
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Leder, Irwin
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Parrish, Robert G.
B.S., University of $W$ isconsin

DEPAKTMENT OF PHYSICS
Researchas Assuciates
Brown, William W.
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Corrsin, Lester
Ph.D., Massachusetts Institute of Teclmology
Sheridan, John
D.Plil., University of Oxford

Trambarulu, Ralph F.
Durliam, N. C.
Wilmington, Del.
Brouklyn, N. Y.
Eau Claire, Wis.

Ph.D., Yale University

## Research Fellows

Anderson, Roy S.
B.A., Clark University

Bailey, J. H. B.S., The Citadel

Eurkhalter, James H. A.B., Emory University; M.S., Georgia School of Techmology

Cooprer, C. Dewey
B.S., Berry College; A.M., Duke University

Crable, George Francis
B.S., Geneva College; M.S., University of Michigan

Gilliam, Otis Randolph
B.S., Randolph-Macon College

Hones, Edward W., Jk. Durham, N. C. B.S., A.M., Duke University

Hopke, Ernest R.
B.S., College of Charleston ; A.M., Duke University

Name
Howard Raydeen
B.S., University of Georgia; A.M., Duke University

Johnson, Charles M.
B.E., Vanderbilt University

Stephenson, Harold P.
B.S., A.M., Duke University

Unterberger, Robert Ruppe
B.S., Syracuse University

The Texas Company Fellowship
Williams, Joel Q.
B.S., Centenary College; M.S., Georgia School of Technology

Goad, Walter B.

Naslıville, Tenn.

## Home Address

Canton, Ga.

Rcidsville, N. C.
Jersey City, N. J.

# GRADUATE INSTRUCTION IN DUKE UNIVERSITY 

## ADMISSION <br> TO GRADUATE COURSES

A student who has received the A.B. or B.S. degree from an institution of recognized standing for a four-year undergraduate course may be admitted to take graduate courses in the Graduate School of Arts and Sciences of Duke University, provided that his undergraduate record gives positive evidence of ability to undertake graduate study successfully. An average grade of not less than " $B$ " is ordinarily accepted as evidence of such ability.

All new applicants for admission to graduate courses are now refuired to take the Graduate Record Examination before they can be admitted. In cases where it is not possible to take the Examination before arrival at Duke University and where the transcript of work taken elsewhere clearly shows that the student is otherwise eligible, the Examination may be taken the first time it is given here after the student's arrival. Students may make their arrangements for taking this Examination directly with the Educational Testing Service, P.O. Box 592, 20 Nassau Street, Princeton, New Jersey. Examinations are conducted several times each year at centers distributed throughout the United States and Canada, and wherever possible students should apply to such a center for the Examination.

No college or university work taken before the Bachelor's degree is conferred, or fully earned, may be credited toward an advanced degree except under the following circumstances: A student of Duke University who lacks at the beginning of a semester not more than nine semester hours of fulfilling the requirements for the Bachelor's degree may obtain permission from the Dean of the Graduate School to take during the semester graduate courses sufficient to bring his total work to fifteen hours a week. Such graduate courses will be credited toward the degree of Master of Arts or Master of Education if registered in the Graduate School Office at the beginning of the term and if the student meets the requirements below for formal admission to the Graduate School.

A candidate for admission to graduate courses should ask the proper officer of the college, or colleges, he attended to send directly to the Dean of the Graduate School an official transcript of all undergraduate records. An advanced student should provide also a transcript of the graduate work completed. Students who have attended more than one college or university should note that certification by one institution of work completed at another institution cannot be accepted. In no case will a transcript presented by the candidate himself be accepted as a basis for admission, nor will a transcript mailed by any institution be returned to the student.

An application blank for admission will be provided upon request to
the Dean of the Graduate School. The transcript and application should be submitted to the Graduate School by August 1 for admission in the autumn semester and by January 1 for admission in the spring semester.

Letters of recommendation are required of each candidate for admission. The applicant should ask two or three professors qualified to speak of his promise as a graduate student to write letters of appraisal to the Dean of the Graduate School of Arts and Sciences, Duke University, Durham, North Carolina.

## TO THE GRADUATE SCHOOL

After twelve semester hours of graduate courses, the student may apply for admission to the Graduate School, and thus become a candidate for the Master's degree. Such admission is dependent upon the fulfilment of two conditions. (1) The student must have made a mark of " $G$ " (good) in at least three semester hours of work, with no mark less than "S." Candidates who cannot meet this condition may at a later time submit their records for re-evaluation, provided that in their subsequent work they shall have made a substantial number of "G's." (2) The student in his undergraduate work must have met substantially the requirements for the A.B. or B.S. degree at Duke University.* Any deficiencies of undergraduate work must be satisfied before admission to the Graduate School. Graduate courses taken at Duke University prior to formal admission to the Graduate School will count toward a higher degree provided they are in accord with its requirements and are acceptable to the major department.

A graduate student may be requested to withdraw from the University at the discretion of the Dean of the Graduate School.

## REGISTRATION

Before actually registering in the Graduate School Office, the student who is admitted to graduate courses should consult with the Director of Graduate Studies or his representative in the department in which he proposes to major and receive written approval of his schedule of courses. This can be done during the registration period in September and January. The department concerned will determine whether a student is prepared to take any particular course. In all cases the student must make up without credit toward a graduate degree all prerequisites required by the major department of candidates for advanced degrees. Students who have fulfilled the minimum residence requirements for the doctorate but who are continuing resident study at Duke University for the degree should register in the Graduate School Office.

New students are advised to arrive early during the registration period in order to formulate their programs. Anyone registering for courses after the close of the regular registration period will be charged a late registration fee of five dollars.

* In meeting the requirements for the A.B. or B.S. degree at Duke University, a studient is not allowed excessive concentration in any one field. The same principle is applied in evaluating the undergraduate record of candidates fur admission to the Graduate Schoul.


## TUITION AND FEES GENERAL FEES IN THE ACADEMIC YEAR

The following table shows the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester. No student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.
Tuition, per semester................................................................... . $\$ 175.00$
General Fee,* per semester.................................................... . . 60.00
Room-rent-See detailed statement on pages 29-30.
Athletic Fee, not including Federal Tax, Optional, per semester......... 5.00
Special Dissertation Fee, payable by candidates for Ph.D. degree in the last semester before the degree is granted. Returned on satisfactory publication of thesis. See page 37
50.00

## SPECIAL FEE

An administrative fee is charged in connection with special graduate research work in the summer under direction of a member of the Faculty. students from the university of north carolina graduate school

Under an experimental plan of co-operation between the University of North Carolina and Duke University, students regularly enrolled in the University of North Carolina Graduate School and paying full fees to that institution may be admitted to courses in the Duke University Graduate School on payment of a registration fee of two dollars and any other special fees which are required of all students.

## TRANSCRIPTS

A student desiring to transfer from Duke University to another institution is entitled to one free transcript of his record. A charge of one dollar, payable in advance, is made for each additional copy. Transcripts of students who enroll in graduate courses only in the summer sessions are issued by the Summer Session Office prior to the fulfilhment of all requirements toward an advanced degree, after which time they can be obtained in the regular way from the Graduate School.

## PAYMENTS TO FELLOWS, SCHOLARS, AND GRADUATE ASSISTANTS

Payments by the University of stipends to fellows, scholars, and graduate assistants are made in four equal installments, at approximately the middle and end of each semester. Tuition fees are charged against the stipends.

Fellows and scholars are required to pay the regular tuition and fees and are expected to take a full program of work. Assistants who are permitted to register for only four fifths of a regular program are charged a proportionate amount of the tuition in addition to the regular matriculation and other fees.

[^29]
## SPECIAL CHARGES FOR TEACHERS AND OTHERS

For the purpose of aiding North Carolina teachers in their professional preparation, Duke University grants a special tuition rate to members of the faculties of neighboring schools and colleges who desire to register during the regular academic session for one or two graduate courses. For such courses a teacher regularly employed and teaching while taking these courses is charged a registration fee of five dollars at the begimning of each semester and a tuition fee of five dollars and twenty-five cents per semester hour of course credit. Under this provision a student may not register for more than seven semester hours each semester.

Employees of Duke University who are paid on a monthly basis throughout the year, ministers of neighboring churches, and wives of the Duke Faculty may be included under the above provisions by the Dean of the Graduate School, provided that such persons do not receive residence credit in any semester for more than two fifths of a regular program in meeting the requirements for advanced degrees.

The special tuition rate for teachers does not apply to the holders of fellowships, graduate scholarships, and graduate assistantships annually awarded in the Graduate School, nor to teachers on leave of absence and not actually engaged in their teaching at the time of registration.

## LIVING ACCOMMODATIONS AND EXPENSES

## Rooms

On the West Campus a graduate building, Few Quadrangle, was opened in September, 1939, with accommodations sufficient to meet the requirements of the men in the Graduate School and in the professional schools. Special sections are reserved for those registered in the Gradwate School of Arts and Sciences. On the Woman's College Campus a limited number of rooms in the Faculty Apartments is available to women registered in the Graduate School. Students' rooms, both on the Woman's College Campus and on the West Campus, are supplied with all necessary furniture. The student should plan to provide his own towels, sheets, pillows, pillowslips, bedcoverings, and table lamp.

Rooms for men in the graduate dormitory on the West Campus rent at $\$ 50.00, \$ 62.50, \$ 75.00$, and $\$ 87.50$ per semester. In the Faculty Apartments on the Woman's College Campus, a single room rents for $\$ 87.50$ per semester, a double room for $\$ 62.50$ per semester per person.

Rooms are reserved only for students who have been officially admitted to graduate courses by the University. They are rented for no shorter period than one semester. The occupancy of a room for less than one semester will be charged at the rate of one dollar each day unless the student makes the necessary arrangements with the Housing Bureau before occupying the room. The minimum charge is $\$ 25.00$. Application for rooms should be made to the Housing Bureau, Duke Station, Durham, N. C. A room reservation fee of $\$ 25.00$ is required for a definite room assignment. The reservation fee is deducted from the room charges at the time of registration. Those who make application and are accepted
will not be entitled to have the reservation fee refunded unless the request for refund is made at least 60 days prior to the date for registration for the semester. Early application for a dormitory room is essential if the student wants to be assured of living accommodations on the campus.

A resident student who wishes to retain his room for the succeeding semester must pay a reservation fee of $\$ 25.00$ on or before an announced date. All rooms which have not been reserved by that date will be considered vacant for the succeeding semester. When a room is once engaged by a student, no changes will be permitted except with the consent of the Housing Bureau.

Graduate students are required to observe the same general regulations as undergraduate students with respect to the use of the rooms. Leaving one room and occupying another without permission is strictly forbidden and will render the offender liable to a charge for both rooms for the entire semester. No occupant is permitted to rent or sublet a room to another occupant. The use of a room for merchandising of any kind is not allowed.

The University does not assume the responsibility for the personnel selected as roommates, though it will gladly render any assistance possible in the matter.

## DINING SERVICE

Food service on both the Woman's College Campus and the West Campus is cafeteria style. The cost of meals approximates $\$ 1.50$ to $\$ 2.00$ per day depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room where full meals and à la carte items are served.

## ESTIMATED EXPENSES IN THE ACADEMIC YEAR

The necessary expenses of a graduate student are moderate. The University dormitories and Unions provide comfortable and wholesome living conditions at a minimum cost. Incidental expenses for recreation, traveling, clothes, and other items naturally depend on the tastes and habits of the individual. The table below lists the necessary college expenses for one year for a full program of work:

|  | Low | Moderate | Liberal |
| :---: | :---: | :---: | :---: |
| Tuition | . $\$ 350.00$ | \$ 350.00 | \$ 350.00 |
| General Fee | 120.00 | 120.00 | 120.00 |
| Room-rent | 100.00 | 125.00 | 175.00 |
| Board | 350.00 | 400.00 | +50.00 |
| Laundry | 25.00 | 30.00 | 35.00 |
| Buoks | 22.50 | 30.00 | 45.00 |
|  | \$967.50 | \$1,055.00 | \$1,175.00 |

## FELLOWSHIPS, SCHOLARSHIPS, AND ASSISTANTSHIPS

For the assistance and encouragement of graduate students of high character and marked ability, the University has established a considerable number of fellowships, scholarships and assistantships with stipends rang-
ing from $\$ 450$ to $\$ 1,600$. Holders of these awards will be expected to pay the tution fee and such additional fees as are regularly required. Applications for appointments together with supporting credentials should be received on or before March 1 of each year. In case vacancies occur, applications submitted on a later date will be considered. Appointments are made for no longer than one academic year.

In appointing fellows, preference is usually given to applicants who have completed successfully at least one year of graduate work. Fellows will be required to give a limited amount of assistance in reading papers, in laboratories, or in other departmental duties. All fellows carry a full program of graduate work. Scholars may be asked to give a limited amount of assistance in departmental work. They normally carry a full program of graduate studies. Assistants receiving $\$ 700$ or more will be registered for four fifths of a normal progran of studies.

Further information and application blanks may be obtained from the Dean of the Graduate School of Arts and Sciences, Duke University, Durham, North Carolina.

Awards offered for the year 1950-51 are listed below.

## FELLOWSHIPS

One Angier Duke Memorial Fellowship of $\$ 1,600$.
Twelve University Fellowships with stipends varying from $\$ 1,050$ to $\$ 1.500$.

Twelve University Fellowships with stipends varying from $\$ 950$ to $\$ 1,200$.

Three Cinney Harriss Kearns Fellowships in Religion of $\$ 1,000$ each.

## GRADUATE ASSISTANTSHIPS

Approximately eighty additional appointments as teaching assistants or readers will be available for graduate students. The compensation will usually range from $\$ 800$ to $\$ 1,500$ depending upon the nature and amount of the work assigned.

## GRADUATE SCHOLARSHIPS

Fifteen scholarships with stipends varying from $\$ 450$ to $\$ 800$ each.
CHARLES W. HARGITT RESEARCH FELLOWSHIP IN ZOOLOGY
The Charles W. Hargitt research fellowship in Zoology, carrying a stipend of $\$ 2,500$, is restricted to research work in the field of Cytology. Appointment is for a single year, with the possibility of reappointment. The fellowship is primarily for post-doctoral research. Inquiries and applications should be made to Dr. C. G. Bookhout, Biology Building, Duke University, Durham, North Carolina.

## FELLOWSHIPS AND GRADUATE SCHOLARSHIPS IN FORESTRY

Information regarding special fellowships and graduate scholarships in forestry may be obtained from the Dean of the School of Forestry, Duke University, Durham, North Carolina.

## SIGMA XI PRIZE AWARDS

The Society of Sigma Xi offers each year a prize for a Master's thesis and a prize for a Ph.D. dissertation in the fields of Botany, Chemistry, Forestry, Mathematics, Medicine, Physics, Psychology, and Zoology. The student must be in residence during the academic year in which the prize is awarded. Students holding graduate appointments are eligible to compete, but instructors, part-time instructors, and interns are not eligible. The department concerned makes the nomination. Full particulars may be obtained from the secretary of the chapter. Nominations, recommendations, copies of theses, reports, or other materials must be in the hands of the secretary on or before May 1. All papers should be submitted in duplicate.

## ADVANCED DEGREES

The degrees offered in the Graduate School of Arts and Sciences are Master of Arts (A.M.), Master of Education (M.Ed.), Doctor of Education (Ed.D.), and Doctor of Philosophy (Ph.D.). Most departments of the University are now prepared to give a full program of work leading to the degree of Doctor of Philosophy.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

## LANGUAGE REQUIREMENTS

Candidates for the degree of Master of Arts are required to have a reading knowledge of at least one foreign language. The various departments have the right to recommend specific languages that are acceptable to them. The candidate may satisfy the foreign language requirement either by examination or by transcript showing the completion of the third college year of the language, or he may satisfy the requirement by transcript showing the completion of the second college year in each of two acceptable languages.

A candidate for the degree of Master of Arts, who feels qualified, may request the language examination required of candidates for the degree of Doctor of Philosophy, and thus satisfy the language requirements for both degrees at the same time (see page 36 ).

## MAJOR AND MINOR SUBJECTS

As a prerequisite to graduate study in his major subject, a student must lave completed a minimum of twelve semester hours of approved preliminary courses in that department and twelve additional semester hours either in that department or in related work. Many departments require eighteen semester hours of undergraduate credit. The student should read carefully the special requirements listed by his department.

To obtain the degree of Master of Arts, a candidate must complete satisfactorily twenty-four semester hours of graduate courses and a thesis. (The student who takes more than fifteen semester hours of work in the Summer Session, must complete a total of twenty-seven hours of course work and a thesis.) The credit for the thesis is six semester hours. Each candidate for the degree must select a major subject, in which the minimum requircment is twelve scmester hours and the thesis.

A candidate must take six semester hours of graduate work in a minor outside of, but approred by, the major department, and the remaining six semester hours in the major or minor fields or in a department approved by the major department and by the Graduate School Council. Undergraduate courses may not be credited toward the degree of Master of Arts.

## RESIDENCE REQUIREMENTS

The minimum residence requirement of candidates for the Master's degree is one academic year. Often a longer period of residence will prove necessary. Those students who take more than fifteen semester hours of courses in the Summer Sessions must fulfill a minimum residence requirement of thirty-three weeks.

Not more than six semester hours of credit toward the Master's degree may be given for acceptable graduate courses or research work completed elsewhere. Such credit shall not shorten the minimum period of full-time residence work required at Duke University. Howerer, with the approval of the student's major department and the Dean of the Graduate School, the student with such credit may be permitted to take six semester hours of required undergraduate training, or six semester hours of a required language, or to register for nine or twelve hours of thesis research instead of the usual six semester hours. No credit toward advanced degrees is given for university extension or correspondence courses.

All the work offered for the Master's degree, whether in the regular academic year or in Summer Sessions, must be completed within a period of six years from the date of beginning. Students who expect to receive advanced degrees at the regular commencement should notify the Graduate Office to that effect by March 15.

## THESIS

The Master's thesis is intended to demonstrate the student's ability to collect, arrange, interpret and report pertinent data or material on some special problem. A publishable contribution, though desirable, is not required. Nevertheless, the thesis is expected to exhibit insight into the problem and competence in the use of appropriate scholarly methods and apparatus.

The title of the thesis must be filed with the Dean of the Graduate School on or before November 15 of the academic year in which it is expected that the degree will be conferred. The subject must receive the written approval of the Director of Graduate Studies of the department in which the candidate has his major field of work and also of the professor under whose direction the thesis is being written.

Four (or, at the discretion of the department, three) bound, typewritten copies of each thesis must be submitted to the Dean of the Graduate School in approved form on or before May 1 of the year in which the degree is conferred. All copies of the thesis should be brought to the Graduate Office before distribution to the examining committee. The examining committee is composed of three members of the Graduate Faculty appointed by the Dean of the Graduate School after consultation with the
professor directing the thesis. Two copies of the approved thesis, the original and one carbon copy, are returned to the Dean of the Graduate School, who deposits them in the University Library. The original must be endorsed with date and signatures by members of the cxamining committee.

## EXAMINATION

Each candidate for the Master's degree is required to appear before the committee mentioned above for a final examination, which will approximate one and one-half hours in length and will be on the thesis and major field.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

The degree of Master of Education is granted to teachers or others engaged in educational work, upon the completion of the prescribed program of study. Before a candidate may be admitted to graduate study for the degree of Master of Education he must have completed a minimum of eighteen semester hours of approved undergraduate work in education, including courses in educational psychology and in the history of education, or educational sociology, or school administration. To be accepted as candidates for the degree, students must early in their residence (1) make a satisfactory score on a test of general ability and (2) demonstrate by examination that they can write acceptable English. In addition they must have had two years of practical experience in teaching when the degree is conferred. This experience may be obtained at any time prior to entering upon candidacy for the degree, or it may be obtaincd concurrently with the period of study for the degree.

The degree of Master of Education may be earned either with or without a thesis.

Requirements arithout thesis. Students who elect not to write a thesis must earn thirty hours of course credit (thirty-three in the Summer Session). Twelve of these hours must be chosen from the four basic required courses, Education 204, 210, 217, and 235. Exemption from not more than two of the four basic courses will be allowed students who can by examination show that they already possess adequate knowledge of the subject matter of the courses omitted. Toward the end of their residence students must also pass a comprehensive examination on the content and inter-relationships among these four courses. Before taking this examination students must obtain the approval of the Director of Graduate Studies in Education and, three weeks beforc its announced date, file a notice of their intention to take it.

Other requirements are : a departmental major of at lcast twelve hours, and a minor of at least six hours in a department other than that of Education. (See page 60 of this Bulletin for suggestions with respect to minors.) Toward the end of their residence students must pass a comprehensive examination on their departmental major.

Requirements with thesis. Students are permitted to substitute a thesis for six hours of course credit, provided (1) that in the first fifteen hours of their work (twclve, in the Summer Session) they earn a " $G$ " record
on at least six hours, and (2) that they can present a thesis subject which has been approved by the member of the staff in Education who will supervise the thesis as well as by two other members of the staff. (Two of the three faculty members approving the subject must be resident members of the staff in Education.)

Besides the thesis, students must earn twenty-four hours of course credit (twenty-seven in the Summer Session). Six of these hours must be earned by taking any two of the basic courses, Education 204, 210, 217, and 235. (Thesis students are exempted from the comprehensive examination which is required of non-thesis candidates.) Of the remaining eighteen hours (twenty-one in the Summer Session), six hours must be taken in some department other than Education. (See page 60 of this Bulletin for suggestions.) The other twelve (or fifteen) hours are taken in the departmental major. All other requirements, such as those relating to residence, preparation of thesis, thesis examination, etc., are the same as for the degree of Master of Arts.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

## THE DEGREE

The degree of Doctor of Philosophy is a research degree; it is not based merely upon the completion of a prescribed period of study or upon the obtaining of credit for a given number of courses. The granting of the degree will be based primarily upon evidence of high attainments in a special field of knowledge and upon the production of a dissertation embodying the results of original research.

A student who plans to enter upon a program of work leading to the degree of Doctor of Philosophy should consult or enter into correspondence with the Dean of the Graduate School or the Chairman or Director of Graduate Studies of the department concerned. He will then be advised as to the possibility of securing the necessary instruction and supervision of research in the desired field.

## RESIDENCE

The normal period of resident graduate study is not less than three academic years. The candidate must spend at least either the last year in actual residence at Duke University, or the first two years. A substantial amount of course work in addition to the thesis will be required. A student whose molergraduate work is insufficient in amount or unsatisfactory in character may expect to spend additional time in preliminary courses essential as a basis for the graduate work he proposes to undertake.

Credit for one year of work done in Summer Sessions may be given with the approval of the Graduate School Council and the department in which the student takes his major work. Except in unusual cases, gradmate work of fragmentary character taken over a long period of years, or work completed many years before the student becomes a candidate for the degree at Duke University, will not be accepted as satisfying the reyuirements of residence.

PROGRAM OF STUDY
The candidate's program of studies requires concentration in one approved department (his major department), together with smaller amounts of course work in one or more related departments. Enough work must be taken in one department other than the major department to constitute an acceptable minor. Exceptions which permit both the major and the minor within the same department are allowed only by special permission of the Dean of the Graduate School.

During the third semester of the student's graduate work a committee of five members is appointed by the Dean of the Graduate School to formulate, in consultation with the student, the remainder of his doctoral program of study. The program of studies recommended by the committee is submitted to the Dean of the Graduate School for his approval on the regular form provided for that purpose. The professor in charge of the student's research in his major department serves as chairman. One member of the committee must be appointed from a department other than the major, usually the minor department. This committee, with occasional necessary changes, will serve also as the examining committee on the student's preliminary and final Ph.D. examinations.

## FOREIGN LANGUAGES

Normally a reading knowledge of both French and German is required. On the recommendation of the department in which the candidate is doing his major work and with the approval of the Dean of the Graduate School, he may, however, be permitted to substitute for either French or German some other language which has a definite relation to the candidate's program of work for the Doctor's degree. No student may appear for his preliminary examination without having satisfied the language requirements for the Doctor's degree. The department in which he takes his major work may indicate preference as to the language in which the student shall first be examined.

Foreign language examinations are conducted by the appropriate language department in conjunction with the department in which the student has his major field of work. For the dates see Calendar, pp. 5-6, above.

## PRELIMINARY EXAMINATION

Toward the end of the second full year of graduate work (or in special cases early in the third year), a preliminary examination of each candidate will be held covering the general field of his studies. This examination will be conducted by the committee in charge of the student's work and will be either oral or written, or both, as the committee may determine. A student who passes the examination will be recognized as a candidate for the Ph.D. degree. The examination on his minor subject or subjects will ordinarily be held at the time of his preliminary examination. Graduate students who transfer to Duke University to work toward the degree of Doctor of Philosophy and who have already passed the preliminary examination for that degree at another university must take the regular preliminary examination at Duke University.

If a student fails on his first examination, he may make a second attempt after six months upon the recommendation of his committee and with the approval of the Dean of the Graduate School. Two failures on this examination make the student incligible to continue work toward the Ph.D. degree at Duke University.

## DISSERTATION

The dissertation for the Ph.D. degree must be a contribution to knowledge. The subject should receive the written approval of the Director of Graduate Studies of the department in which the candidate has his major field of work and also of the professor under whom the dissertation is being written. The title of the dissertation must be filed with the Dean of the Graduate School on or before October 15 of the academic year in which the candidate desires to take the final examination for his degree.

The dissertation must be completed to the satisfaction of the professor under whom it is written, and four bound, typewritten copies in approved form must be deposited with the Dean of the Graduate School on or before April 15 if the student desires to be examined on it before the end of the academic year. The bound copies of the dissertation should contain at the end an autobiographical sketch of the student. The title page must be approved by the major department and by the Dean of the Graduate School. The student should bring to the examination ten additional copies of the autobiographical sketch and ten copies of a brief summary of the dissertation. Two copies of the approved dissertation, the original and one carbon copy, are returned to the Dean of the Graduate School, who deposits them in the University Library. The original must be endorsed with date and signatures by the members of the examining committee.

Before the degree is conferred the candidate must deposit with the Treasurer of the University a special dissertation fee of fifty dollars in cash. If the dissertation is published in a form satisfactory to the Dean of the Graduate School and to the professor under whom it is written within a period of three years from the date the degree is granted, the fee of fifty dollars is returned. Ten copies of the published dissertation must be deposited in the Graduate School Office as provided by regulations of the Graduate School Council. A suitable abstract, or one or more articles, may be accepted as satisfying the publication agreement. If the dissertation is not published within the three-year period in a form accepted by the Dean of the Graduate School and by the professor under whom it is written, the deposit of fifty dollars is forfeited and becomes the property of the University. The forfeited dissertation fees are credited to a special Dissertation Fund, which is used for subsidizing the publication of such dissertations recommended by the Graduate School Council.

## FINAL EXAMINATION

The final examination on the dissertation and on the related subject matter in the major or the minor fields will be oral. Approximately one year must elapse between the dates of the preliminary examination and the final examination. Two failures on this examination make a student in-
eligible to continue work toward the Ph.D. degree at Duke University. The second examination may be given only upon the recommendation of the professor in charge of the dissertation and the approval of the Dean of the Graduate School.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF EDUCATION

The Ed.D. degree is professional in character and is available only to persons who are, or intend to become, public school administrators.

## ADMISSION

The present admission requirements of the Graduate School for the candidate for the Plı.D. degree apply in every respect to the candidate fur the Ed.D. degree. In addition to these uniform admission requirements, the candidate for the Ed.D. degree must: (1) have had at least three years of public school experience, preferably with some of that experience in administration: (2) make a satisfactory score on a psychological examination and show, by examination, ability to write good English; (3) present strong letters of recommendation from qualified persons; and (4) present himself, if possible, for an interview. The Standing Committee on the Ed.D. degree reserves the right to insist upon an interview.

## REQUIREMENTS FOR THE DEGREE

The residence requirements for the Ed.D. candidate are the same as those for the Ph.D. candidate. To be accepted as a candidate for the Ed.D. degree the student must earn at least nine semester hours of credit at the level of " $G$ " or above during his first year of graduate work at Duke University.

By the end of his second year of residence the candidate stands a preliminary examination similar in character and purpose to the preliminary examination for the Pl.D. degree. He must write an acceptable thesis and defend it at the time of the final examination. The degree is not awarded until after one year of successful apprenticeship in a public school system approved by the Standing Committee on the degree, under conditions which assure adequate supervision of the candidate's activities.

## PROGRAM OF WORK

The candidate's major field is Public School Administration; his extradepartmental minor is taken in related fields as described below. The first year of graduate work is the present program for the Ed.M. degree or its equivalent. The work in Public School Administration in the second and third years is organized on the basis of seminars instead of discrete courses. Course work is divided approximately into thirds, with one third in the general field of Education, one third in specialized, professional work in Public School Administration, and one third in related fields. This related work, amounting to at least twenty-four semester hours, must be taken in economics, political science, and sociology, with approval given for needed work taken in other departments. In all cases, the details of the program are to be determined by the Standing Committee un the program, in consultation with each candidate for the degree.

## THE GRADING OF GRADUATE STUDENTS

Members of the Faculty are expected to report the grades of graduate students, not later than February 10 for the first semester and not later than June 6 for the second semester, on the cards provided for that purpose.

In the grading of graduate students, "E" (exceptional) is the highest mark; "G" (good), the next lower; and "S" (satisfactory) indicates work of an acceptable but not distinguished quality. "F" (fail) indicates that the work of the student is below passing. In a course in which both graduates and undergraduates are enrolled, the grade " S " represents approximately an 80 per cent rating. A mark of "Inc." (incomplete) may be given when a student has failed, for an acceptable reason, to complete some portion of the required work in a course in which his standing is generally satisfactory. The professor specifies the period of time in which the student is permitted to make up the deficiency, but the professor cannot grant an extension beyond one calendar year from the date the course ends. No residence credit is granted for that part of a student's program which he fails to complete in a satisfactory manner.

## GENERAL REGULATIONS

Not more than twenty-five students are permitted in a class giving graduate credit, nor are undergraduate students below the Senior year permitted in such a class. Exceptions to these rules may be made by special permission of the Executive Committee of the Graduate School Council on recommendation of the department concerned.

Candidates for advanced degrees should notify the Graduate School Office by March 15 of each year whether or not they expect to complete the requirements for the degree in time for the Commencement in June.

## THE LIBRARY

The University Libraries contain 960,859 volumes, 618,613 of which are in the General Library. The remainder are shelved in eight school and departmental libraries: Divinity, 46,318 volumes ; Hospital, 48,070 volumes; Law, 89,122 volumes; Woman's College, 79,095 volumes; BiologyForestry, 40,090 volumes; Chemistry, 13,555 volumes; Engineering, 12,994 volumes; Mathematics-Plysics, 12,076 volumes. Between 30,000 and 40,000 volumes are added annually to the University Libraries.

Most of the printed and manuscript materials of interest to grarluate students in the humanities and social sciences are in the General Library. This building, first occupied in 1930, was doubled in size in 1949. The cnlarged building now contains many special features which contribute to the preservation of materials and aid research students in their study. The book stacks and storage areas are air conditioned. Two hundred and fifty carrels, some enclosed, are available in the stacks as places of study. (Graduate students, upon application, may receive permits admitting them to the stacks.) A reading and study room for graduate students is provided on the first floor. Rare books and manuscripts are preserved in air conditioncd quarters in the north tower, rare books occupying four
rooms on the first floor and manuscripts, four on the ground level. Elsewhere on the ground level is the Newspaper Reading Room, where back files of newspapers may be consulted, and a Microphotography Laboratory with facilities for reproducing printed and other material. The Newspaper Reading Room contains a battery of microfilm reading machines.

The school and departmental libraries bring books and journals closer to students and faculty in several divisions of the University, particularly in the natural sciences.

The major task in developing a research library for scientists involves securing files of important journals and serials, and from the beginning this has been one of the primary objectives of the Library administration. In 1948-49 the University was receiving currently 3,600 periodicals by subscription, gift, and exchange. Library development in the humanities and social sciences has gone forward with the acquisition of basic collections of source materials and important publications of criticism and discussion. In quantity the purchases have ranged from significant single sets, such as Migne's Patrologia (Latin and Greek) and the Monumenta Germaniae Historica, to special libraries containing many thousands of volumes. Among the important special collections is the Guido Mazzoni library of Italian and comparative literature containing 23,000 volumes and 67,000 pamphlets which came to the University in 1948. Others include a Peruvian library of about seven thousand books and manuscripts; a library of several thousand volumes dealing with Brazil; an Ecuadorian collection of about two thousand volumes; the Robertson library of Philippiniana; the Lanson Collection of French literature consisting of twelve thousand books and monographs: a Goethe collection of one thousand volumes; a Scandinavian collection of three thousand volumes; a special group of five thousand items of early Americana, dating from the seventeenth century to 1820 ; the Holl church history library dealing primarily with the period of the Reformation; a collection of many thousands of church minutes and records of American denominational history; two collections of eighteenth-century English poetry and prose totaling about five thousand items; the Frank C. Brown folklore collection consisting of about 38,000 folklore manuscripts, with 650 musical scores, 1,400 vocal recordings, and a variety of related materials; a collection of more than five thousand seventeenth- and eighteenth-century British pamphlets; special collections of manuscripts; annotated copies and first editions of Byron, Coleridge, and Emerson ; a collection of material on the Fourier movement; the Arents tobacco collection; and the Thomas Collection of books on Chinese history and culture. Special mention should be made of the George Washington Flowers Collection of manuscripts. books. newspapers, and pamphlets dealing with all phases of Southern history, and of the Trent Collection of Walt Whitman books and manuscripts.

## Public Documents

The importance of public documents as fundamental source materials is clearly recognized, and a comprehensive collection of this material has been assembled. The Library has been a depository for Federal documents
since 1890. State documentary publications are also being systematically collected in cooperation with the University of North Carolina. A representative collection of European public documents has been secured. Among them are the British Parliamentary Papers (since 1925), Calendar of State Papers, the Acts of the Prizy Council, Hansard's Debates, the Débats Parlementaires of the French Senate and Chamber of Deputies, the Journal Officiel de la République Française, the Bulletin des Lois de la République Française, the Reichsgesetzblatt, the V'erhandlungen des Reichstags, the Atti of the Italian Parliament, the Diario of the Spanish Cortes. The public documents of the Latin-American countries, especially Argentina, Bolivia, Brazil, Chile, Ecuador, Peru, and Uruguay form one of the strongest units of the Library. The publications of the League of Nations, United Nations, and International Labour Office, of course, are present.

Under this heading should be mentioned also the Library of Professor Louis Strisower, sometime President of the Institut de Droit International, which contains approximately five thousand volumes dealing with international law. The volumes date from the seventeenth century to the present and contain some especially valuable periodical files and rare books.

## Publications of European Academies

The Duke University Library has the publications of many of the European academies, containing monographs in most of the fields of knowledge and constituting important sources for the research programs of graduate students and faculty. The sets comprise over four thousand volumes and include Preussische Akademie der Wissenschaften (Berlin); Gesellschaft der Wissenschaften zu Göttingen; Heidelberger Akademic der W'issenschaften; Akademie der Wissenschafton (Vienna); Académie des sciences (Paris) ; Académie des inscriptions et belles-lettres (Paris); Académie des sciences morales et politiques (Paris) ; Accademia nazionale dei lincei (Rome): Accademia pontificia dei nuovi lincei (Rome); Real academia española (Madrid); Academia de la historia (Madrid); Akademiia uank (Leningrad); Dansk videnskabernes selskab (Copenhagen) ; Norske itdenskaps-akademi i Oslo: Akademie van Wetenschappen (Amsterdam); Académie royale des sciences, des lettres et des bean.rarts de Belgique (Brussels).

## Newspapers

The Newspaper Collection of the Library contains about 13,000 volumes and 2,000 rolls of microfilm. Most of the states of the Union are represented, although a large percentage of the papers are from the Atlantic seaboard-about fifty per cent representing the South and thirty per cent the Northeast. Of the eighteenth-century titles, the states best represented are Massachusetts, Maryland, New York, Rhode Island, Georgia, Virginia, North Carolina and South Carolina. The collection of nine-teenth-century New England papers is strong, but especially extensive are the Library's holdings of North Carolina, South Carolina, and Virginia
newspapers for the Ante-Bellum and Civil War periods. The years of World War I are covered by twenty-eight fairly complete files. Foreign newspapers include The (London) Times from 1785, and about a dozen virtually complete runs of European and Latin-American papers from the 1920 's and early 1930 's. The current subscription list contains seventy papers, about one-half of which are foreign.

## Manuscripts

The manuscript collection now contains $1,500,000$ items relating chiefly to the South Atlantic region. Most numerous are records of military, social, and economic life in the Confederate period, including letters, diaries, rosters, military reports, statutes of the Confederate Congress, court records, and papers of various departments of the Confederate Govermment. Outstanding among the many papers providing a well-rounded picture of life in the South during the nineteenth century are original census returns of Georgia, Kentucky, Louisiana, and Tennessee for 1850 and 1860. The collection, most extensive in the field of history, contains information on all phases of social and economic life as well as politics. Numerous large collections bear particularly on the history of Alabama, Georgia, North Carolina, South Carolina, and Virginia. Of interest for historical studies are the papers of P. G. T. Beauregard, John C. Calhoun, David Campbell, Robert Carter, Clement C. Clay, Henry Clay. William H. Crawford, John J. Crittenden, Jefferson Davis, Nathanael Greene, Andrew Jackson, Robert E. Lee, Alfred T. Mahan, Alexander H. Stephens, and others. For the later period the papers of Furnifold W. Simmons and Josiah W. Bailey, senators from North Carolina, are significant. The field of American literature is represented by papers of Thomas Holley Chivers, John Esten Cooke, Clara V. Dargan, Paul Hamilton Hayne, George Frederick Holmes, Alexander B. Meek, Thomas Nelson Page, Augustin L. Taveau, and Walt Whitman. Among British and literary materials there are interesting groups of papers relating to George Moore, the Rossettis, Robert Southey, and Tennyson. Of the medieval manuscripts, consisting chiefly of lectionaries and copies of the New Testament, a thirteenth-century New Testament in Greek, and a Greek liturgical scroll of the Byzantine Empire are noteworthy. The Library has recently acquired the extensive official files of the Socialist Party of America extending from 1901 to 1938; and a collection of the papers of George Holyoake, English cooperator and secularist of the nineteenth century:

A Guide to the Manuscript Collections in the Duke University Library, which describes the papers comprising the collection in 1942, was issued in 1947 as Series 27 and 28 of the Historical Papers of the Trinity College Historical Society. This index was prepared by Namie M. Tilley, then curator of manuscripts, and her assistant, Noma Lee Goodwin.

## Exchange Privileges with the Library of the University of North Carolina

The libraries of Duke University and of the University of North Carolina have arrangements for the fullest exchange of privileges and resources. Each library contains a catalogue of the contents of the other.

Books are sccured on loan for students and faculty through a delivery service which operates between the libraries creey other day. Faculty mombers and graduate students may secure cards admitting them to the stacks of the other library. The Library of the University of North Carolina contains about 540,000 volumes, and a large collection of mannscripts relating to Southern history. Under this arrangement $1,450,000$ volumes and about $4,000,000$ manuscripts are available to studcnts of the two institutions.

## SCIENCE LABORATORIES

## botanical and zoological laboratories

Facilitics for graduate study in the Dcpartments of Botany and Zoolosy are for the most part concentrated in the Biology Building on the West Campus. In addition to well-equipped laboratories for tcaching and rcscarch in the various fields of botany and zoology, special facilities, such as animal rooms, greenhouses, darkrooms, a small shop, a refrigerated room, and an air-conditioned room are available.

The Botany herbarium, containing over 125,000 specimens, is particularly strong in material from the Southeast and includes notable colIcctions of mosses, ferns, and grasses. The Biology-Forestry Library contains an outstanding collcction of books and serials, including most of the important American and foreign periodicals, in botany, forcstry, zoology and related fields.

Unique assets for teaching and research are the Sarah P. Duke Gardens, conveniently accessible on the West Campus; the Duke Forest. comprising some eight thousand acres of woodland adjacent to the West Campus; and the Dukc University Marine Laboratory at Beaufort, North Carolina. The marine station is cxceptionally well located for the study of animal and plant life in the ocean and in the coastal plains arca. Grarluatc courscs of instruction are given at the Marine Laboratory during the summer months; rescarch facilities are available throughout the year.

Scholarships for advanced study during the summer months are maintained at the Highlands Laboratory, Highlands, North Carolina, and at the Marinc Biological Laboratory, Woods Hole, Massachusetts. Requcsts for additional information concerning these scholarships should be addressed to the Zoology Department.

## PHYSICAL LABORATORIES

A now physics building has just been completed. It has 62,500 squate feet of floor space and is of the most modern typc.

In addition to the usual lecture halls and elementary laboratories, there are special laboratories for work in electrical measurements, electronics, microwares, optics, atomic physics, and mechanics. A new laboratory for training in radioactive measurements has recently been added.

The research laboratories contain the following special equipment: a new 21 ft . concave grating and other instruments for visible, ultraviolet, infrared, and Raman spectra are available for research in spectroscopy.

Extensive and well equipped laboratories are provided for research in microwaves and microwave spectroscopy in both the centimeter and millimeter range. New type crystal counters, proportional counters, and ion chambers are used for cosmic ray research.

The department has available, in addition to University appointments, a number of research fellowships for work under government contracts and from grants by industry and scientific foundations.

The new physics building contains also a departmental library, a liquid air plant, and shop facilities. The main shop is staffed by four instrument mechanics, two electronic technicians, and a glassblower. There is also a separate shop for use of graduate students.

## CHEMICAL LABORATORIES

Graduate work in chemistry is carried on in a modern building with a floor area of about 57,000 square feet. Of this total space a large proportion is available for research and advanced teaching. There are twentyfive double research rooms completely equipped with the usual services. In addition, a number of specially designed rooms are available for present or future research, such as a photographic room, constant temperature room, distillation room, and rooms equipped for dielectric constant and magnetic measurements.

A glassblowing room and a well-equipped shop, operated by a competent mechanic, provide facilities for the construction of special apparatus and for the repair and maintenance of instruments.

## MEDICAL SCHOOL

In the School of Medicine elaborate facilities are provided for postgraduate research $m$ the various branches of medical science. The Departments of Anatomy, Bacteriology and Immunology, Biochemistry and Nutrition, and Physiology and Pharmacology offer certain courses and research facilities to students in the Graduate School of Arts and Sciences. The use of the Duke Hospital Library is available to all graduate students.

## OAK RIDGE INSTITUTE OF NUCLEAR STUDIES

Duke University is one of the sponsoring universities of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Institute, the graduate research program has at its disposal all the facilities of the National Laboratories in Oak Ridge and of the research staffs of these laboratories.

## DUKE FOREST

The Duke Forest consists of approximately eight thousand acres of land, most of which is adjacent and easily accessible to the University campus. Situated in the lower Piedmont region and composed of secondgrowth shortleaf pine, loblolly pine, and hardwoods, the Forest is representative of the various types of timber growth and soils found throughout the region. Through placing the Forest under intensive management for forestry purposes, substantial progress has been made in developing the educational work and research in forestry.

The proximity of the Forest to the laboratories, greenhouses, and library facilities of the University provides an excellent opportunity for advanced study and research in forestry. Research, particularly in the fields of silvics, forest soils, silviculture. forest management, properties of wood, forest-tree physiology, forest entomology, and forest pathology, is well under way. Several members of the Botany and Zoology staffs are also engaged in research in the Duke Forest.

For additional information see the Bulletin of the School of Forestry.

## ENCOURAGEMENT OF RESEARCH

The President of the University appoints annually a University Council on Research. The members of this Council are chosen from the Faculties of the Schools of Medicine and of Law, the Divinity School, and the Graduate School of Arts and Sciences. In May of each year the Council on Research receives written applications from members of the Faculty for subsidies to be used in the following fiscal year to aid them in carrying out research projects. Stipends are granted for the employment of research assistants, for the purchase of books, and for apparatus, supplies, and equipment. Each member of the Faculty to whom a research stipend is granted must make a written report within twelve months to the Council concerning the progress of the investigation for which the stipend was allowed.

## SPECIAL LECTURES

During each academic year the University Lecture Committee arranges for special lectures of value to graduate students interested in various fields of knowledge. The Woman's College Lecture Series brings other guests to the campus. In addition to these lectures, a number of distinguished speakers appear each year on the programs of various schools and departments of the University.

Among the guest lecturers during the academic year 1949-50 were Hanson Baldwin, Military Critic for the New York Times, and Mrs. G. D. H. Cole, noted English writer.

## THE UNIVERSITY PRESS

In 1897 Trinity College began sponsoring the publication of "The Historical Papers of the Trinity College Historical Society," which was distributed to members of the Society and by exchange to other institutions. This series was the first publishing venture of the College. In 1902, the 9019, an honor scholastic society on the campus, founded The South Atlantic Quarterly, which is now published by the Press.

In 1921 the Trinity College Press was established to publish the results of research engaged in by the Faculty and such other works as were approved by a board of editors appointed for the purpose. In 1925, with the acceptance of the benefaction of James B. Duke, Trinity College became one of the undergraduate colleges of Duke University, and the following year the University Press was organized to succeed the Trinity College Press.

One of the first steps of the new organization was to revive The Hispanic American Historical Reivez, which had been founded and published from 1918 to 1922 by a group of scholars interested in Hispanic America. Since 1926 its publication has been continued without interruption, and its mission has been supplemented by many studies dealing with the history, politics, and foreign relations of the Hispanic nations of the New World. In 1929 American Litcrature was begun with the co-operation of the American Literature Group of the Modern Language Association. This journal was followed in 1931 by Ecological Monographs, a quarterly sponsored by the Ecological Society of America, to take care of papers too long for inclusion in Ecology, which began to appear under the auspices of the Press in 1948. Character and Personality, since 1945 the Jomrnal of Personality, was founded in 1932 as a medium for the publication of studies in fields related to this phase of psychology. In 1935 the Press started the publication of the Duke Mathematical Jounal, with the co-operation of the Mathematical Association of America, and in 1937 The Jommal of Parapsychology for the publication of the results of research in extrasensory perception and related topics. The Law School of Duke University publishes Law and Contemporary Problems, a quarterly presenting in each issue a symposium treating the legal, economic, and other social-science aspects of current problems. The faculty of the Law School also edits The Journal of Legal Education, which is the official publication of the Association of American Law Schools.

Besides its books, monographs, and regular quarterly publications, the Press issues "Contributions to Psychological Theory" and "Duke University Research Studies in Education," the latter sponsored by the Department of Education of the University. It publishes also the Bulletin of the University Marine Laboratory at Beaufort, North Carolina.

Since its organization the Press has offered to the public the products of scholarly research to the number of more than two hundred volumes. It has not limited its scope to any one field or to any one group of authors. In addition to the many works submitted by members of the Faculty and alumni, a great number of titles by authors without a connection with the University have been issued under the imprint of the Press.

In the broadest sense, the policy of the Press is to make available to the public any scholarly work which, because of the merit of its contents, its style, and its general value, deserves publication, though special attention is given to works in domains of knowledge cultivated by the University and to works pertaining to the region south of the Potomac.

## APPOINTMENTS OFFICE

The services of the Appointments Office maintained by the University are extended to all graduate students without charge. Graduate students who are interested in college teaching or employment in industrial fields have been and are being placed in steadily increasing numbers. All graduate students who are interested in securing employment through the Appointments Office, or who wish to have available for their own use in
securing employment a complete file containing their academic record and pertinent recommendations, should register with the Appointments Office.

## GRADUATE STUDY IN THE SUMMER SESSION

The Duke University Summer Session is divided into three terms of six weeks each. In 1950 the first term begins June 14 and ends July 22, the second term begins July 6 and ends August 12, and the third term begins July $2+$ and ends August 31. The second term, July 6 to August 12, will offer the greatest variety of graduate courses, except in the departments of English and History. Graduate students who wish to work toward advanced degrees in the Summer Session, particularly in Chemistry, Economics, Education, English, History, Mathematics, Religion, Sociology, Spanish and Zoology will usually find a wide selection of courses offered by members of the Duke Faculty and by visiting professors. Other departments ordinarily offering sequences of work leading to the Master's degree in a series of summer terms are Botany, Physics, Political Science and Psychology. Students in Botany and Zoology have unusual opportunities for research and study in the Duke Marine Laboratory at Beaufort, North Carolina, besides regular courses offered at the University.

Graduate students who present more than fifteen semester hours earned in Summer Sessions toward the Master's degree must meet a minimum residence requirement of thirty-three weeks. No graduate student may register for more than six semester hours of credit in one Summer Session of six weeks. All the work presented for the Master's degree must be completed within six years from the date of beginning. Work completed earlier is not accepted toward either the course or residence requirements. Not more than one year of summer work is accepted toward the residence requirements for the Ph.D. degree.

A Bulletin containing information regarding the graduate courses to be offered during the summer of 1950 may be obtained by addressing the Director of the Summer Session, Duke University, Durham, N. C. Summer Session graduate students who desire to be admitted to graduate courses to work toward advanced degrees should make application to the Dean of the Graduate School by June 1 for admission to the first summer term, by June 21 for the second summer term, and by July 10 for the third summer term. They should abso request the registrar of the colleges attended to send to the Dean of the Graduate School an official transcript of their undergraduate record.

## COURSES OF INSTRUCTION

Most courses listed in this Bulletin are given on the West Campus. The letter ( E ) following the description means that that conrse is offered on the East Campus. In general, courses with odd numbers are offered in the first semester, those avith even mmbers in the second semester.

## AESTHETICS, ART, AND MUSIC

PROFESSOR KATHARINE GILBERT, CHAIRMAN-100 ASBURY BUILDING; ASSISTANT PROFESSOR MARKMAN
No graduate degree is offered in this department, but the following courses are suggested as possible minors for students majoring in history, literature, philosophy, religion, psychology, or sociology, or in any other interested departments.

201-202. The Philosophy of Art.-Analysis with the aid of examples of general terms used in the discussion of art. Reference to recent aesthetic theories. 6 s.h. (E)
[Not offered in 1950-51]
213-214. History of Aesthetics.-Theories of art and beauty from Pythagoras to Croce. 6 s.h. (E)

Professor Gilbekt
215. Religious Art of the Ancient Near East.-The development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia and in part Syria and Palestine to the Persian conquest. 3 s.h. (w)
[Not offered in 1950-51]
216. Religious Art of the Classical World.-The religious art, particularly architecture and sculpture, of Greece and Rome with special emphasis on the monuments in the Near East. 3 s.h. (w) Assistant Professor Markman
[Not offered in 1950-51]
217. Aegean Art.-A study of the problems of Aegean art as the forerunner of Greek art and in relation to the contemporary civilizations of the eastern Mediterranean world. Open to graduate students, seniors and, after consultation with the instructor, to juniors. 3 s.h. (w)

Assistant Professor Markman
218. Early Greek Art.-A study of the problems of the origin and development of Greek art in the geometric period to the end of the archaic. Open to graduate students, seniors and, after consultation with the instructor, to juniors. 3 s.h. (w)

Assistant Professor Markman

# DIVISION OF ANCIENT LANGUAGES AND LITERATURES 

PROFESSORS CLARK, ROGERS, AND STINESPRING; ASSISTANT PROFESSORS ROSE, TRUESDALE, WAY, AND YOUNG; DR. BROWNLEE<br>\section*{GREEK}

Three types of courses are offered for graduate study by the Greek Department, and one representative of each type is given every year. One group of courses is devoted to extensive reading in the six departments of classical Greek literature; another deals with Greek archaeology, dialects, and inscriptions; and the third is a series of seminars covering four years. The courses of each type rotate from year to year in a fixed order for the most part. In 1950-51 the courses offered are 203-204, 247-248, and 305-306.

The requirement for admission to graduate work is four years' study of the

Greek language or twenty-four semester hours of course credit. A student with fewer credits may be admitted if he has undoubted ability.

FOR SENIORS AND GRADUATES
201-202. Greek Tragedy.-6 s.h. Assistant Professor Truesdale
203-204. Homer.-Odyssey. Pindar and Bacchylides. 6 s.h.
Assistant Professor Truesdale
205-206. Greek Historians.-6 s.h.
207-208. Greek Orators.-6 s.h.
Assistant Professor Rose
Assistant Professor Way
209-210. Plato.-Symposium, Protagoras, and parts of the Republic. 6 s.h. Assistant Professor Way
211-212. Aristophanes.-6 s.h.
Assistant Professor Truesdale.
(Only one of the six courses listed above is offered each year.)
243. Athenian Topography.-The topograply and monuments of ancient Athens. 3 s.h.

Assistant Professor Way
244. Greek Epigraphy.-Lectures on the history of the alphabet and the development of the local Greek alphabets, followed by extensive reading of inscriptional texts in facsimile. 3 s.h. Assistant Professor Way
245. Greek Dialects.-A linguistic study of transliterated inscriptions illustrative of the major Greek dialects. The interrelations of the dialectal forms are examined, with reference, where possible, to their origin in proethnic Greek. 3 s.h.

Assistant Professor Way
246. Greek Historical Inscriptions.-The more valuable historical inscriptions are read in chronological order and interpreted in their general bearing upon the course of Greek history. 3 s.h.

Assistant Professor Way
247-248. Greek Archaeology.-Advanced course in the general field for Seniors and Graduates, comprising architecture, sculpture, vases, and the minor arts. 6 s.h.

Assistant Professor Way
(Of the coruses numbered from 243 to 248 , only two semester-courses are offered each year.)
257. Social and Cultural History of the Hellenistic World from Alexander to Augustus.-Lectures, readings, and discussions. This course will not be separately credited without the sequel Latin 258. 3 s.h. Professor Rogers

## FOR GRADUATES

The more advanced work of the graduate department is done in the seminar. One author or group of authors forms the center of study each year. Seminars are offered in Aristophanes (301-302), The Greek Historians (303-304), The Attic Orators (305-306), and The Greek Tragic Poets (307308). These run through a cycle of four years. In 1950-51 the work will be: 301-302. Aristophanes.

Graduate students of Duke Unizersity may attend the American School of Classical Studies in Athens, Greece, without charge for tuition, and they are eligible to compcte for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology, and one in the language, literature, and history of ancient Greece, each with a stipend of $\$ 1,300$. They are azarded mainly on the basis of examinations held in the beginning of February of each year.

## Latin and roman studies

The program of the Latin Department seeks to provide for two different kinds of student: (a) those who intend to pursue graduate study only to the attainment of the Master of Arts degree, and (b) those who desire to con-
tinue research in the field of classical studies and who contemplate working toward the degree of Doctor of Philosophy. Students of the former class should have not less than eighteen semester hours of credit in Latin, over and above the four-year high-school course in Latin or its college equivalent, and an elementary acquaintance with German and French. Students looking to the doctorate should have in addition to the above preparation at least twelve semester hours of credit in Greek and will ordinarily take their minor in Greek. They must have a reading knowledge of German and Frencl. The ability to read Italian will also prove valuable. The Department reserves the privilege of rejecting applications of students who, while meeting these requirements literally, do not in their past records show promise of success in more advanced study.

> FOR SENIORS AND GRADUATES

## 201. Roman Fiction.

## 202. Latin Christian Writers.

203-204. Roman Epic: Ennius, Vergil, Manilius, Lucan, Flaccus, Statius, Silius.-A study of this literary genre, and its development by Roman writers; extensive reading of the Roman epics. Not offered if 205-206 is gizen. 6 s.h. (E)

205-206. Roman Drama: Plautus, Terence, Seneca.-A rapid reading course in which five plays of Plautus, three of Terence, and two of Seneca are studied. 6 s.h. (E)

207-208. Roman Philosophy.
209-210. Vulgar Latin: Introduction to Romance Philology.
211-212. Roman Oratory.-A survey of the history of Roman oratory, centering about the Brutus of Cicero and Tacitus' Diuloyus. 6 s.h.

Professor Rogers
215. Introduction to Roman Art and Archeology.
216. Topography and Monuments of Ancient Rome.

251-252. Roman Life.
258. Social and Cultural History of the Graeco-Roman World.-The Roman Empire as the trustee of Hellenism and Christianity, and its own original contributions to modern civilization; lectures, readings, and discussions. This course continues Greek 257 and will not be separately credited. 3 s.h.

Professor Rogers
281-282. Roman Historical Literature.
283-284. Roman Law.-Readings in the original sources with parallel study of modern exposition of the Roman legal system. 6 s.h.

Professor Rogers

## FOR GRADUATES

309-310. Sight Reading and Composition.-Comprehensive reading in special fields of Roman Literature not included in other courses, with which the writing of Latin will be correlated. 6 s.h. Assistant Professor Rose

311-312. Latin Epigraphy.-Introduction to Latin epigraphy, with considerable practice in reading short inscriptions, first semester; and this is followed by a study of important historical inscriptions including the Monumentum Ancyranum; second semester. 6 s.h.

Professor Rogers
Seminars: Various authors or historical periods are selected from year to year as a basis for training in criticism and research. Seminars are offered in the following: Catullus (301-302), Roman Historians (331-332),

Roman Provincial Administration (341-342), The Reign of Tiberius (343344), Martial (351-352), Horace (361-362), Lucretius (371-372), and Cicero's Public Career (391-392). The seminar planned for 1950-51 is:
331-332. Roman Historians.-6 s.h.

## LINGUISTICS

FOR GRADUATES
375-376. Greek and Latin Linguistics. - $\Lambda$ comparative study of the devel opment of forms and inflections in Greek and Latin. 6 s.h.

Assistant Professor Rose:
385-386. Elementary Sanskrit.-An introductory course to the elassical language and literature. The linguistic importance of Sanskrit will be stressed, especially with reference to Greek, Latin, and Germanic. 6 s.h.

Assistant Professor Rose

## SEMITICS

FOR SENIORS AND GRADUATES
201-202. First Hebrew.-The principles and structure of the Hebrew latuguage, with translations of selected Old Testament narratives. $6 \mathrm{~s} . \mathrm{h}$.

Professor Stinespring;
205-206. Elementary Arabic.-Tntroduction to the classical language and literature, with some attention to the modern colloquial idiom. 6 s.h.
[Not offered in 1950-51] Professor Stinestrring
207-208. Second Hebrew.-Samticl or Kings the first semester; Isaiah the second. 6.s.h.

Dr. Brownlee
FOR GRADUATES
304. Aramaic.-A sturly of the Aramaic portions of the Old Testament and selected passages from the Targums, Midrashes, and Talmuds. 3 s.h.

Professor Stinespring,
305. Third Hebrew.- $\backslash$ study of late Hebrew prose, with readings from Chronicles, Ecelesiastes, and the Mishnah. Hours to be arranged. 3 s.h.
|Not offered in 1950-51|
Professor Stinfespring
307. Syriac.- $\Lambda$ study of the seript and grammar, with readings from the Syriac New Testament and other carly Christian documents. Some knowledge of Hebrew and $\Lambda$ ramic prercquisite. 3 s.h. Professor Stinespring
[Not offered in 1950-51]
309. History of the Ancient Near East.- $\Lambda$ survey of the early civilizations of Egypt. Palestinc, Syria, and Mesopotamia in the light of Biblical archeology. 3 s.h.

Professor Stinespring
RELATED COURSES IN OTHER DEPARTMENTS
Philosophy 217. Philosophy of Aristotle.-3 s.h.
Associate Professor McLarty
Religion 217. The New Testament in Greek.-Extensive reading of the Greck eritical text, with special consideration of variant interpretations. $3 \mathrm{~s} . \mathrm{h}$. Professor Clark
Religion 218. Galatians and I Corinthians.-A detailed study of two of Paul's major epistles, based on the Greek text. 3 s.h. Professor Ciark

Religion 220. I Peter and the Gospel of John.-A detailed study of two of the non-Pauline writings of the New Testament, based on the Greek text. 3 s.h.

Professor Clark
Religion 313.-The Apostolic Fathers.-A study of the Christian development from Clement of Rome to Polycarp, with readings of the Greek text. 3 s.h.

Professor Clark

Religion 316. Hellenistic Religions at the Beginning of the Christian Era. - 3 s.h.

Professor Clark
Religion 318. Text of New Testament.-A study of the materials for the reconstruction of the text, the principles of textual criticism, and the history of the text. Practical exercises in the use of manuscripts and facsimiles will be given. 3 s.h.

Professor Clark
Under the terms of a co-operative agreement graduate students of Duke University may, with the approval of the chairman of their major department, take any graduate course offered by the Departments of Greek and Latin of the University of North Carolina by the payment of a nominal fee. A list of these courses will be sent upon request.

## BOTANY

PROFESSOR BLOMQUIST, CHAIRMAN-203 BIOLOGY BUILDING; PROFESSOR KRAMER, director of graduate studies- 04 biology building; professors

ADDOMS, HARRAR, OOSTING AND WOLF; ASSOCIATE
PROFESSORS ANDERSON AND PERRY
Graduate work is offered leading to the Master's and Ph.D. degrees. Students must have a satisfactory background in the biological sciences. This ordinarily includes at least 12 hours of botany beyond an elementary course. A working knowledge of chemistry and of physics is desirable and for some phases of botanical work, required. Graduate work is planned to provide the student with a broad basic training in the various fields of botany, accompanied by specialization in the field of the research problem.

## FOR SENIORS AND GRADUATES

202. Genetics.-The principles of heredity, their cytological basis, and their bearing on other fields of biology. Laboratory work involves experimental breeding of the fruit fly and interpretation of data from the breeding of plants. Offered in alternate years. Prerequisites: one year of botany, zoology, or equivalent, and college algebra. 4 s.h. Associate Professor Perry
203. Plant Cytology.-A study of the structure and organization of plant cells in relation to growth, reproduction, and especially heredity. Offered in alternate years. Prerequisite: one year of botany. 4 s.h.

Associate Professor Anderson
204. Advanced Plant Anatomy.-The structure of vegetative and reproductive organs of seed plants. Physiological and ecological implications of structure are stressed. Offered in alternate years. Prerequisite: Botany 55 or equivalent. 4 s.h. Professor Addoms
216. Botanical Microtechnique.-Studies in methods of preparing temporary and permanent microscopical slides; theory of staining; the use of the microscope, especially microscopical measurements, drawing, and photomicrography; botanical photography, and lantern slides. Prerequisite: two semesters of hotany. 4 s.h.

Associate Professor Anderson
221. Structure and Classification of Fungi.-Prerequisite: two semesters of botany. 4 s.h.

Professor Wolf
222. Physiology and Ecology of Fungi.-Prerequisite: Botany 221 or equivalent. 4 s.h. Professor Wolf
225-226. Special Problems.-Students with adequate training may do special work in the following fields. Credits to be arranged.
(a) Bacteriology, Mycology, and Plant Pathology. Professor Wolf
(b) Cytology. Assoclate Professor Anderson
(c) Ecology.

Professor Oosting
(d) Genetics.

Associate Professor Perry
(e) Morphology and Anatomy of Higher Plants.

Professors Addoms, Harrar and Oostinc
(f) Morphology and Taxonomy of Lower Groups.

Professor Blomguist and Associate Professor Anderson
(g) Physiology.
(h) Plant Microchemistry.
(i) Taxonomy of Higher Groups.

Professors Addoms and Kramer
Professor Addoms
Professor Blomquist
252. Advanced Plant Physiology.-The physicochemical processes and conditions underlying the physiological processes of plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended.

4 s.h.
Professor Kramek
255. Advanced Taxonomy.-A study of the historical background of plant taxonomy, modern concepts and systems of classification, nomenclatorial probiems, and the taxonomy of specialized groups. Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h. Professor Blomquist
256. Field Ecology.-An ecological survey of local vegetation, including theory and practice in the use of instruments for precise habitat studies, and analysis of community and successional relationships. 4 s.h. Professor Oosting

## FOR GRADUATES

305. Plant Geography.-The distribution and limits of regetation types with special consideration of the plant communities of North America. Offered in alternate years. Prerequisite: Botany 156 or equivalent. 4 s.h.

Professor Oosting
310. Structure and Classification of Bryophytes and Pteridophytes.-The morphological and systematic characteristics of mosses, liverworts, ferns, and fern allies. 4 s.h.

Professor Blomquist
311. Structure and Classification of Algae.-The morphological and ecological characteristics of the common freshwater and marine species and the principles underlying their classification. Collecting, identification, and the making of permanent microscopical preparations. 4 s.h. Professor Blompuist
341. Methods in Plant Physiology.-The theory and use of apparatus and methods in the physiological research. 4 s.h.

Professor Kramer
342. Plant Microchemistry.-The identification and estimation of the constituents of plant cells by the use of microchemical tests. Offered in alternate years. 2 s.h.

Professor Addoms
359-360. Research in Botany.-Individual investigation in the various fields of botany: Credits to be arranged.

Professors Amboms. Blomquist, Harrar, Kramer, Oosting. Wolf; Associate Professors Anderson And Perry

397-398. General Botanical Seminar.-One hour per week throughout the year. Required of all graduates majoring in botany. 2 s.h.

Professors Adioms, Blomquist, Harrar, Kramer, Oosting. TVolf; Associate. Professors Anderson And Perry

FOREST BOTANY
FOR SENIORS AND GRADUATES
224. Forest Pathology.-Special reference to diseases of forest trees. Prerequisites: Botany 1 and 2. 4 s.h.
253. Dendrology.-Nomenclature, classification, and identification of woody plants with special reference to spccies indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h.

Professor Harrar

## RELATED COURSES IN OTHER DEPARTMENTS

These related courses may be counted toward a major in botany.
Forestry 257. Design of Forestry Experiments and Analysis of Data.5 s.h.

Professor Schumacher
Zoology 341. Historical Zoology.-2 s.h.
Professor Hargitt

## CHEMISTRY

FROFESSOR SAYLOR, ENECUTIVE OFFICER-115A CHEMISTRY BUILIHNG; PROFESSOR VOSBURGH, DIRECTOR OF GRADUATE STUDIES-211 CHEMISTRY BUILDING; PROFESSORS BIGELOW, GROSS, HAUSER, AND LONDON ; ASSOCIATE PROFESSORS BRADSHER, BROWN, HILL, AND HOBBS

The graduate work in the Department is planned so as to provide a broad hasic training in the fields of inorganic, organic, analytical, and physical chemistry. The selection of the research problem for the A.M. or Ph.D. degrec determines in which field further specialization takes place.

An important requirement for the Ph .D. degree is the suceessful completion, under the direction of a member of the Staff, of a research program leading to the solution of an original problem.

## FOR SENIORS AND GRADUATES

206. Elements of Theoretical Chemistry.-A course in general theoretical chemistry for students who do not present eredit in calculus. Credit is not given for both 206 and 261-262. Three recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Plysics 51-52 or 1-2 and Mathematics 6 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h.

Professor Saylor and Associate Professor Hobbs
215-216. Advanced Inorganic Chemistry.-A study of modern theorics of valence and molecular structure; also of inorganic compounds, particularly the less common types, illustrated by suitable laboratory preparations. Prerequisites: Chemistry 70, 151-152, and 261-262, or 206. 6 s.h.

Professor Vosburgh and Associate Professor Hill
233. Instrumental Analysis.-Experiments in the use of physical measuring instruments in chemical analysis with special attention to optical instruments. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and one year of physics. 2 s.h.

Associate Professor Hobbs; Professors Saylor and Vosburgil
234. Physico-Chemical Methods of Analysis.-Discussion of physicochemicai principles as applied to methods of instrumental analysis, illustrated by laboratory experiments, with emphasis on methods involving eleetrical techniques. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and 261-262; the latter may be taken concurrently. 2 s.h.

Associate Professor Hobbs; Professors Saylor and Vosburgh
236. Theory of Analytical Chemistry.-A study of such topics as precision and errors, theories of precipitation and titration, oxidation and reduction, and others, illustrated by typical analytical methods. One lecture. Prerequisites: Chemistry 70 and 261-262. 1 s.h.

Professor Vosburgh
251. Qualitative Organic Analysis.-Systematic identification of organic compounds, including a study of solubilities and classification reactions. One lecture and three or six laboratory hours. Prerequisites: Chemistry 70 and 151-152. 2 or 3 s.h.

Professor Hauser
252. Advanced Organic Preparations.-A laboratory course including experiments of a more difficult type than those required on the elementary level, accompanied by oral discussions of the techniques and theories involved, and designed to round out the student's knowledge of fundamental organic processes. Three or six laboratory hours. Prerequisite: Chemistry 151-152. 1 or 2 s.h.

Associate Professor Brown and Professor Bigelow
253-254. Advanced Organic Chemistry.-Discussion of the theories of organic chemistry with special reference in the first semester to the mechanism of reactions and in the second semester to the synthesis of some of the more complex compounds such as vitamins, hormones, and alkaloids. Undergraduates are admitted to this course only by permission of the Director of Undergraduate studies. Prerequisites: Chemistry 70 and $151-152.4$ s.h.

Professors Bigelow and Hauser
261-262. Physical Chemistry.-Fundamentals of general theoretical chemistry illustrated by selected laboratory experiments. Two recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics 51-52 or equivalent. 6 s.h.

Associate Professor Hobbs and Professor Saylor
265-266. Chemical Physics. Statistical Theory.-General introduction to statistical mechanics and applications to chemical problems; solution theory, reaction velocity, changes of state, quantum statistics and the metallic state. Lectures, conferences, and assigned problems. 6 s.h. Professor London

267-268. Chemical Physics. Quantum Theory of Atomic and Molecular Structure.-Theory of atomic and molecular forces and the structure of matter. Lectures, conferences, and assigned problems. 6 s.h. Professor London
271. Introduction to Research.-Lectures on the use of chemical literature, research methods, recording and publication of results, and other topics. One lecture. 1 s.h.

Professors Bigelow and Vosburgh
273-274. Seminar.-Required of all graduate students in chemistry. One hour a week discussion. 2 s.h.

Professors Bigelow, Gross, Hauser, Saylor, and Vosburgh; Associate Professors Bradsher, Brown, Hill, and Hobes
275-276. Research.-The aim of this course is to give instruction in methods used in the investigation of original problems. Nine hours a week and conferences. 3 or 6 s.h.

Professors Bigelow, Gross, Hauser, London, Saylor, and Vosburgh;
Associate Professors Bradsher, Brown, Hild, and Hobbs
FOR GRADUATES
303. Thermodynamics.-Fundamental laws of thermodynamics and their applications to chemistry and physics. 3 s.h.

Professors Saylor and Vosburgh
304. Physical Chemistry of Reactions.-The theoretical aspects of reaction kinetics, chemical equilibrium, atomic and molecular forces, and the relation of these to chemical reactions are considered. Prerequisite: Chemistry 261-262. 3 s.h.

Associate Professor Hobbs
350. Organic Reactions.-A study of the scope and limitations of the more important types of reactions of organic chemistry from the point of view of their practical use in the synthesis of organic compounds. Lectures and discussion. Prerequisites: Chemistry 251 and 253. 2 s.h.

Associate Professur Bradsher

351-352. Advanced Synthetic Organic Chemistry.-Recent advances in certain selected fields, such as the mechanism of organic reactions, medicinals. dyes, perfumes, terpenes, and alkaloids, will be discussed. The emphasis will be placed on structure studies and synthetic methods. Lecture or seminar one hour each week. 2 s.h.

Professors Bigelow and Hauser
363-364. Advanced Physical Chemistry.-Recent advances in physical chemistry are considered. Prerequisites: Chemistry 261-262 and 303, or equivalent. 4 s.h.

Professors Saylok and Vosburgh; Associate Professors Hill and Hobbs

## RELATED COURSES IN OTHER DEPARTMENTS

## Biochemistry and Nutrition

M241. General Biochemistry and Nutrition.-Prerequisites : general chemistry, organic chemistry, elementary physical and analytical chemistry, and at least one year of college biology. February-June. 8 s.h. Staff

M242. Biochemical Preparations.-Prerequisite: Biochemistry M241. Hours by arrangement. 2, 3, 4 s.h. Drs. Neurath, Handler, and Schwert

M343-344. Biochemistry of Proteins and Enzymes.-Given alternately with M341. 4 s.h.

Drs. Neurath and Schwert
M349-350. Intermediary Metabolism.-Prerequisite: Biochemistry M241 or its equivalent. 4 s.h.

Dr. Handler
M341. Theories and Methods of Physical Biochemistry--Given alternately with M343-344. 2 s.h. Drs. Neurath and Schweri

M351-352. Nutrition.-Prerequisite: Biochemistry M241 or its equivalent. Given alternately with Biochemistry M349-350. 4 s.h. Dr. Handler

## Microbiology

M322. Immunochemistry.-A seminar. 2 s.h.
Dr. Neurath

## ECONOMICS

professor hoover, chairman-320 Libkary; professor spengler, director of graduate studies - 322 library ; professors black, de vyver, humphrey, RATCHFORD, SMITH, AND VON BECKERATH; ASSOCIATE PROFESSOKS HANNA AND SIMMONS

A student who proposes to major in economics in his graduate work should have made an undergraduate record that reveals scholarly competence and have completed, with a grade of " B " or better, at least twelve semester hours in economics distributed as follows: Principles of Economics, six semester hours; Intermediate Economic Theory or equivalent, three semester hours; Elementary Statistics, three semester hours. It is recommended also that, as an undergraduate, 'he endeavor to complete the following: basic "principles" courses in psychology, philosophy, logic, and each of the social sciences other than economics; mathematics through calculus; several courses in general and cost accounting; enough course work to give him a reading knowledge of two widely used foreign languages; enough work in composition to give him an excellent command of oral and written English, and enough course work in one or several natural sciences to acquaint him well with the methodology of natural science.

In the event of a deficiency in his undergraduate preparation, the student may arrange with the Director of Graduate Studies to remove the deficiency during his first year of residence by taking prescribed courses without graduate credit. Detailed information concerning departmental requirements for adranced degrees may be obtained from the Director of Graduate Studies.

## FOR SENIORS AND GRADUATES

204. Advanced Money and Banking.-Structure and functioning of the monetary and banking mechanism. Presupposes a thorough grounding in the field. Particular attention is given to significant areas involving issues of economic policy. Primary emphasis is placed upon the underlying basis of monetary management and upon its implementation by the central banking authorities. 3 s.h.

Associate Professor Simmons
215. Economic Systems.-A study of alternative economic systems. In addition to an analysis of communism, anarchism, and the variants of socialism, the course will include a consideration of other proposed modifications of the existing economic order. Particular attention is given to an analysis of the Soviet economic system. Credit for this course will be given only if the student takes Economics 216. 3 s.h.

Professor Hoover
216. Economic Functions of the State.-A consideration of the primary and secondary economic functions of government and of the legislation which provides for the performance of these functions. Prerequisite: Economics 215 or its equivalent. 3 s.h.

Professor Hoover
217. Population Problems and Resources.-Survey of population theory and policy. Study of national and international trends in population-growth and resource-use, together with analyses of their economic and social implications. 3 s.h.

Professor Spengler
218. Business Cycles.-Description and analysis of the causes and consequences of economic rhythms and movements of various lengths (e.g., seasonal, cyclical, long-period, etc.). Analysis of methods proposed as means of curtailing such movements, or of mitigating their effects. 3 s.h.

Professor Humphrey
231. The Economic History of Europe.-The economic development of Europe from medieval times to the present, treating such topics as guilds, mercantilism, money, banking, crises, the Industrial Revolution, the interrelationships of government and business, and the economic consequences of war. 3 s.h.

Professor Smith
233. State and Local Finance.-A study of expenditures, taxation, and financial administration in state and local governments with emphasis on current problems. Special attention will be given to research methods and materials and to the financial relations between state and local governments. 3 s.h.

Professor Ratchford
234. Federal Finance.-A study of the expenditures, revenues, and financial administration of the government of the United States, with emphasis on current problems. Special attention given to budgetary procedure, corporate and individual income taxes, and the financial relations between federal and state governments. 3 s.h.

Professor Ratchford
236. Taxation and Government Finance.-A basic course in public finance for advanced students. Primary emphasis is placed on taxation and tax policy, with consideration also of government expenditures, financial administration, intergovernmental fiscal relations, and public debts. Readings in texts, monograpls, and source materials will be supplemented by lectures, class discussions. and reports on special topics. Not open to students who have received credit for Economics 187 or equivalent. 3 s.h.

Professor Ratchford
237-238. Statistical Methods.-A study of statistical methods appropriate for dealing with problems in business and the social sciences. In addition to developing more thoroughly the subjects considered in Business Statistics, the following methods will be considered: simple, multiple, partial, and curvilinear correlation: curve fitting; probability; frequency distributions; and reliability of estimates. Prerequisite: Economics 138 or consent of the instructor. 6 s.h.

241-242. Value and Distribution.-This course is a critical survey of the leading contemporary explanations of price formation and of the determination of interest, rent, wages, and profits. 6 s.h.

Professor Spengler
245. Problems of Modern Industrialism.-Description and analysis of the growth of modern industrialism, of the structure and operation of large scalc industry, of the inter-relations of industrial, political, and legal development, and of the implications for industry of the modern wel fare state. 3 s.h.

## Professor yon Beckerath

256. Labor Legislation.-A study of the relations of the state to labor problems with special reference to remedial legislation, to interference in labor disputes, and to social insurance. 3 s.h.

Professor de Vyver
260. Social Insurance.-A consideration of the economic and social problems involved in workmen's compensation laws, unemployment insurance, oldage pension, and health insurance for workers. Particular attention will be given to the present federal and state social security legislation. 3 s.h.

Professor de Vyver
265. International Trade and Finance.-A study of the fundamental principles of international trade and foreign exchangc. Subjects covered will include international specialization, balance of payments, foreign investments, tariffs and commercial policies, exchange control, exchange rates, and international monetary problems. 3 s.h.
268. Competitive versus Monopolistic Enterprise.-A study of monopoly and imperfect competition as disturbances of a frec, self-regulating market economy in an individualistic democratic political system; of the possibilities of public and private action respecting the preservation of these systems; and of the implications of planning and public welfare policies. 3 s.h.

Professor von Beckerath
275-276. Advanced Industrial Accounting and Management.-This coursc traces the ways and means of executive control through statistics and industrial accountancy. Emphasis is put upon the economics of overhead costs. A complete practice set of cost accounting is worked by each student during the coursc. Courscs $57-58$ and 105 are ordinarily prerequisites for this course. 5 s.h.

Professor Black

## FOR GRADU $\Lambda$ TES

304. Seminar in Money and Banking.-3 s.h.

Associate Professor Simmons
311-312. History of Political Economy.-This coursc traces the development of economic theory, giving special attention to the various schools of economic thought in England, France, Germany, Italy, and the United States. $\Delta$ large amount of collateral reading in the works of typical authors is required. Lectures and class discussions. 6 s.h.

Professor Spengler
313-314. Seminar in Economic Theory.-The coursc consists of directed research in economic theory. The primary purpose is the correction of atuthoritative celecticism and its replacement by individually intcgrated theory. Prerequisite: Economics 241-242 or its equivalent. 6 s.h.

## 317. Seminar in Population Problems.-3 s.h.

Professor Hoover
318. General Seminar in Economics.-All graduate students with economics as a major subject are members of this seminar. Reports of progress in research will be made, and there will be lectures and critical discussion by members of the Department. Year course. No credit.

Staff

# 319. Seminar in the Theories and Problems of Economic Change.-3 s.h. <br> Professor Spengler 

320. Seminar in Business Cycles.-3 s.h.

Professor Humphrey
330. Seminar in Public Finance.-3 s.h.

Professor Ratchford
331. Research in Economic History: A Seminar.-3 s.h. Professor Smith
343. Seminar in Financial Organization.-3 s.h. Professor Ratchford
355. Seminar in Labor Problems.-3 s.h. Professor de Vyver
365. Seminar in International Trade.-3 s.h. Professor Humphrey
368. Seminar in Marketing Problems.-3 s.h.

Associate Professor Landon
386. Seminar in Latin-American Economic Problems.-3 s.h.

Professor Smith
389. Seminar in Business and Government.-3 s.h. Professor Humphrey
related courses in other departments
The following course, included in the curriculum of the School of Law, carries economics credit for economics majors:

Public Control of Business Seminar.-Intensive study of the federal antitrust laws and their common-law background, with emphasis on the economic policies involved. 3 s.h.

Professors Livengood and Spengler
Attention is called to the following courses in related departments:
Forestry 277. Economics of Forestry.-3 s.h.
Professor Thomson
History 219-220. The History of the European Proletariat.-6 s.h.
[Not offered in 1950-51] Professor Carroll
Political Science 207. American Constitutional Law and Theory.-3 s.h.
Professors Wilson and Rankin

## EDUCATION

FROFESSOR PROCTOR, ACTING CHAIRMAN AND ACTING DIRECTOR OF GRADUATE STUBIES -2A WEST DUKE BUILDING; PROFESSORS CARK, CHILDS, AND NAHM; ASSOCIATE [ROFESSORS BOLMEIER, EASLEY, RUDISILL, AND STUMPF
The Department offers a full major of work in educational psychology toward the degree of Doctor of Philosophy, with approved minors in as many as two of the departmental divisions listed for the Master's degree and in another department closely related to the thesis problem of the candidate (see below). It is planned to offer complete majors in other divisions as rapidly as growth of the Department warrants.

In addition, the Department offers work toward the Master of Arts and Master of Education degrees, minor work toward the Doctor of Philosophy degree with majors in other departments, and a three-year graduate program in Public School Administration leading to the professional degree, Ed.D. The degree of Master of Arts is available in the divisions of elementary education, experimental education and educational psychology, history and philosophy of education, public school administration, secondary education, and educational sociology. The degree of Master of Education is available in the divisions of elementary education, public school administration, secondary education, and nursing education.

Master's degree candidates must choose their courses according to some unified plan. The mere accumulation of more or less unrelated work in the various divisions with minor work in some department only remotely related to the major field does not lead to a graduate degree. Every candidate for a Master's degree should elect at least six, and preferably twelve, semester hours of course work in his departmental major. No student, except by special
approval of the Department and of the Graduate School, is permitted to take minor work in more than one department or to an amount exceeding six semester hours.

For admission to candidacy for the Master's degree within the department, students, in addition to meeting the general requirements for admission to the Graduate School, must satisfy the following specific requirements: (1) eighteen hours of approved prior work in Education; (2) twelve semester hours of approved prior work in a minor field (exception: if psychology or sociology is offered for the minor, six semester hours of work completed after entering the junior year of college satisfy this requirement). To become candidates for the Master of Education degree, students must also (3) make an acceptable score on a test of general ability and ( $t$ ) show by examination that they are able to write good English.

Candidates for the A.M. degree must write theses. Those who intend to write theses in the history of education are required to take their minor work in American history. Students writing in school administration are advised to elect minor work in economics, sociology, and political science. Students writing in educational psychology should elect their minor work in psychology.

Candidates for the Master of Education degree may or may not write theses. Complete information for both programs will be found on pages 34 and 35 of this Bulletin.

Master of Education candidates who do not write theses must take the four basic courses, Education 207, 210, 217, and 235, must pass a comprehensive examination on them toward the end of their residence, and must stand a comprehensive examination on their departmental major. For candidates for the degree of Master of Education in Nursing Education the departmental major consists of courses Education 310, 311, and 312.

Candidates for the Master of Education degree with thesis must meet the special conditions described on pages $3 t$ and 35 , with respect to admission to candidacy, thesis subject, and enrollment in two of the four basic departmental courses.

Students seeking the degree of Doctor of Philosophy in educational psychologyy must satisfy the uniform requirements of the Graduate School for admission, as well as the Department's requirements respecting approved prior work in education and in a minor field. (See above for the Naster's degree.) Candidates are expected to complete 65-75 semester hours of course work and to write theses which represent original contributions. The amount and distribution of course work is an individual matter determined by the supervising committee in relation to the candidate's needs. The program consists of 27-35 semester hours in the major, educational psychology ; 15-20 hours in an intradepartmental minor or minors; 15-25 in the extra-departmental minor, and the remainder in related departments as seems advisable. The extra-departmental minor is psychology; few exceptions are allowed. A preliminary examination, covering both major and minor fields, is given late in the second year of graduate work. The doctoral thesis, for which technically eighteen hours of credit are allowed, usually requires more than a calendar year for its completion.

Candidates for the Ed.D. degree must accumulate three years of residence at the graduate level, the last two years at Duke University. A special requirement for admission to the degree program is three years of practical school experience, preferably with some of it in the field of administration. The program calls for approximately 24 semester hours of work in service courses in education and an equal amount of work in a minor or in minor departments, in addition to 24 semester hours of specified work in the field of public school administration in the second and third years. Candidates must write and defend acceptable theses and serve one year of successful apprenticeship under supervision before receiving the degree. For other details in the program, see page 38.

## ELEMENTARY EDUCATION

## FOR SENIORS AN゙D GRADUATES

207. Technique of Teaching.-An advanced course in the teaching process, dealing with the theory underlying sound technique and applied specifically to the work of the elementary school. 3 s.h. (E)

Professor Cark
[Not offered in 1950-51]
212. Psychology of the Elementary School Subjects.-A study of the psychology of learning as applied to teaching the common school subjects. First semester. 3 s.h. (E)

Professor Cakr
[Nut offered in 1950-51]
222. The Curriculum and Materials of the Elementary Grades.-A study of curriculum problems in the elementary schools. 3 s.h. (E) Professor Cark
232. Supervision of Instruction.-A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 3 s.h. (E)

Professor Carr
235. The Nature, Function, and Reorganization of the Curriculum.-One of the required courses for the Master of Education degree without thesis. Selected problems guiding the reading of students. Open to graduate students only: 3 s.h.

Professor Carr

## EXPERIMENTAL EDUCATION AND EDUCATIONAL PSYCHOLOGY

## FOR SENIORS AND GRADUATES

208A. Mental Tests and Applications.-A study of the development of intelligence testing, the concept of general intelligence, yarious recent applications of mental tests, and training in the giving of individual tests. Prerequisite: course 258 or six semester hours of cther work in educational psychology or psychology. First semester. 3 s.h. (e) Associate Professor Easley

208B. Practicum.-Open only to students approved by the instructor. Second semester. 2 s.h. (e) Associate Professor Easley
209. Statistical Methods Applied to Education.-A study of statistical methods of treating educational and social data designed to enable teachers or administrators to interpret and use the results of scientific investigations in education. 3 s.h. (E)

Associate Professor Stumpf
210. Introduction to Educational Research.-The general purpose of this course is to give the student an overview of research, acquaint him with the nature of research processes, and develop within him an appreciation of the essential characteristics of good research work. The course is one of the four basic courses required for the Master of Education degree without thesis and is designed to be liberalizing as well as technical. Open to graduate students only. 3 s.h. (E)

Associate Professor Stumpf
216. Psychological Principles of Secondary Education.-A study of adolescence and the psychology of learning as applied to teaching the principal high-school subjects. 3 s.h. (E)

Professor Chilids
[ Not offered in 1950-51]
217. The Psychological Principles of Education.-An advanced study of teaching, learning, and the learner. This is one of the courses required for the Master of Education degree without thesis. Selected problems guiding the reading of students will be discussed in class. Open to graduate students only. 3 s.h.

Associate Professor Easley
227. The Psychology of Learning: Problems.-The major problems related to the learning process will be examined, with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. 3 s.h. (e) Assoctate Professor Easley
[Not offered in 1950-51]
228. The Psychology of Learning: Theoretical and Experimental.-In this semester the laws of learning, the most important explanatory principles, and the major systems of psychology of learning will be considered. Class experiments will run throughout the semester. Prerequisite: course 227 or its equivalent. 3 s.h. (E)

Assoclate Professor Easley
237. Investigations in Reading.-A summary of the results of the more important scientific studies in reading; interpretation of the results in terms of aims, methods, materials of instruction, testing, diagnosis, and supervision; emphasis on problems requiring further investigation. 3 s.h. (E)

## Assoctate Professor Rudisili.

258. Educational Measurements.-A critical study of the principles and techniques involved in measurement in education, with opportunity for individual research. Prerequisite: twelve semester hours in the Department, including a course in educational psychology. 3 s.h. (E)
[Not offered in 1950-51]

## FOR GRADUATES

307-308. Seminar in Educational Psychology.-4 s.h. (E)
[Not offered in 1950-51]
318. Educational Implications of Genetic Psychology.-A study of the development of the individual through the stages of growth and learning, with emphasis upon early and later chitdhood; the development of such behavior patterns as play, language, etc.; the process of socialization, etc. Prerequisite: six semester hours of psychology or educational psychology. 3 s.h. (E)
320. Advanced Educational Statistics.-This course continues the work begun in Education 209, dealing particularly with further methods of correlation and with various applications to the theory of measurement. The course does not require a background of mathematics beyond high-school algebra. 3 s.h. (E)
339. Research Course in Educational Tests.-A study of problems in the construction and interpretation of tests. Prerequisite: the equivalent of course 258. 3 s.h. (E)
[Not offered in 1950-51]

## history and philosophy of education

## FOR SENIORS AND GRADUATES

200. Introduction to the Philosophy of Education.-A consideration of fundamental concepts underlying educational theory. 3 s.h. (E.)
[Not offered in 1950-51]
201. The School as an Institution.-The place of the school in society, its history and philosophy. This is one of the courses required for the Master of Education degree without thesis. Selected problems guiding the reading of students will be discussed in class. Open to graduate students unly. 3 s.h. (f.)

Assoclate Professur Polmeier
214. History of Education in the United States.-A study of the development of the American public school and the interaction of higher education and the public school. 3 s.h. (E)
[Not offered in 1950-51]
244. Studies in the Historical Development of Public School Administra-tion.-An advanced course devoted to the development of public schoul administration in the South, with especial reference to North Carolina as a type. 3 s.h.
[Not uffered in 1950-51]
254. History of Secondary Education in the United States. A study of historical and comparative conceptions of the secondary school, changes in American life affecting the secondary school, present status of the secondary school, current tendencics toward expansion, and the problem of state and federal aid. 3 s.h.

Professor Proctor
[Not offered in 1950-51]

## public school administration

## FOR SENIORS AND GRADUATES

203. Principles of School Administration.-The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system, and the functions of the various school officials. Prerequisite: Education 103 and 88, or six semester hours of equivalent work in education. 3 s.h. (E)

Professor Proctor and Associate Professor Bolmeier
213. Problems in the Organization and Administration of the Elementary School.-A study of the work of the elementary school principal. Second semestcr. 3 s.h. (E)

Professor Proctor
233. Administrative Pupil-Accounting.-An advanced study of gradation and classification of pupils, with incidental attention to the keeping of records and the making of reports. The study includes a considcration of individual differences, promotions, acceleration, and retardation of pupils; the various plans for classification and gradation; interpreting the results of tests, and some practice in the computation of statistical measures. 3 s .h. (E)
[Not offered in 1950-51]
Professor Proctor
234. Secondary School Organization and Administration.-A study of the outstanding problems of secondary school organization and administration other than the problem of gradation and classification of pupils. 3 s.h. (E)

Assoclate Professor Bolmeier
253. Legal Phases of School Administration.-A study of judicial decisions and the development of outstanding features of statute law controlling school administration, with special emphasis upon North Carolina materials. 3 s.h. (E)
[Not offered in 1950-51]

## FOR GRADUATES

323. Public School Finance.-A study of educational costs, sources of revenue for the support of public education, collection of revenue, basis of distribution, and accounting for funds spent. Second semester. 3 s.h. (E)

Associate Professor Stumpf
330-331. Public School Administration, Seminar I.-This seminar is to bc taken in the second year of the Ed.D. program. It involves considcration of the following four units of work: (1) organizing the school system; (2) administering the educational program; (3) financing the educational program; (4) administering the school persomnel. 6 s.h. each semester. (E)

332-333. Public School Administration, Seminar II.-This seminar is to be taken in the third year of the Ed.D. program. It involves the business administration of the school system; school plant planning, maintenance and operation; public relations and legal aspects of school administration; school records and reports; policy making and the evolution of current procedures. Students will spend some time in field work observing school systems in operation and studying current problems of school administration. 6 s.h. each semester. (E)

Professors Carr and Proctor, and Associate Professors Bolmeier and Stumpf
343. State and County School Administration.-A study of state and county organization of public schools, emphasizing underlying principles. 3 s.h.
[Not offered in 1950-51]
Professor Proctor
363. City School Administration.- $\Lambda$ study of the organization and administration of city school systems, including administrative phases of superrision. 3 s.h. (E)

Professor Proctor

## SECONDARY EDUCATION AND EDUCATIONAL SOCIOLOGY

## FOR SENIORS AND GRADUATES

205. Curriculum Problems in Secondary Education. $-\Lambda$ consideration of the aims and objectives of secondary school subjects, emphasizing practical problems of curriculum-making in the high school. 3 s.h. (E)
[Not offered in 1950-51]
Professor Childs
206. Sociological Foundations of the Secondary School Subjects.-A consideration of the aims and objectives of the secondary school. Prerequisites : six semester hours in education, including course 105. 3 s.h. (E)

Professor Childs
215. Educational and Vocational Guidance--A survey of the literature on guidance with special reference to secondary education; a critical study of the principles and techniques used in guidance: an attempt to locate the problems most urgently in need of solution. Prerequisite: twelve semester hours in the Department, including course 105 or course 206. 3 s.h. (e) Professor Childs
225. The Teaching of History and the Social Studies.-Identical with History 211. The course counts as an elective in the Department of Education only when approved by the Department and the instructor. 3 s.h. (w)

Associate Professor Manchester
246. The Teaching of Mathematics.-Identical with Mathematics 204. The course counts as an elective in the Department of Education only when approved by the Departmnet and the instructor. 3 s.h. (e) Professor Rankin
[Not offered inless justified by enrollment]

## NURSING EDUCATION

310. Nursing Education: Organization and Administration in Nursing Schools.-The organization and administration of schools of nursing; their administrative control and support, the preparation of the budget, the faculty organization, the administration of the curriculum, the provision of instructional facilities, records and reports, and professional and public relations. Problems involved in organizing and administering a hospital nursing service are also presented and relationships between the School of Nursing and the nursing service are discussed. Year course. 4 s.h. Professor Nahm
[Not offered in 1950-51]
311. Nursing Education: Problems of Personnel Administration in Nurs-ing.-A course which deals with problems in the organization and administration of personnel services for students and for graduate nurses. It includes a discussion of methods of selection and orientation, personnel records, provision for general welfare, counseling, placement and follow-up. Year course. 4 s.h.

Professor Naha
[Not offered in 1950-51]
312. Nursing Education: Research Problems.-To acquire some knowledge of the principles and methods of research each student works on an individual problem in the field of her major interest. Year course. 4 s.h.
[Not offered in 1950-51]
Professor Nahm

## METHODOLOGY OF RESEARCH

## FOR GRADUATES

301. Methods of Educational Research: Seminar.-Graduate students are instructed in methods of research as applied to selected educational problems.

Each student must select for intensive study and practice a subject in which he is interested. Either semester. 3 s.h. Professors Carr, Childs, and Proctor

RELATED COURSES IN OTHER DEPARTMENTS
FOR MAJORS IN EDUCATIONAL PSYCHOLOGY, ELEMENTARY EDUCATION, AND SECONDARY EDUCATION
Philosophy 208. Political Philosophy.-3 s.h. Professor Negley
Philosophy 242. Scientific Methodology.-3 s.h.
Psychology 206. Social Psychology.-3 s.h. Professor Adams
Psychology 207. Psychology of Memory, Thinking, Perceiving.-3 s.h.
[Not offered in 1950-51] Professor Zener
Psychology 209. Experimental Methods in Human Psychology.-4 s.h.
Professor Zener
Psychology 212. Physiological Psychology.-3 s.h. Professor Zener
Psychology 215. Developmental Psychology.-3 s.h. Professor Adams
Psychology 226. Psychology: Historical and Theoretical.-3 s.h.
[Not offered in 1950-51] Professor Zener
Psychology 306. Seminar in Child Psychology (Clinical).-2 or 3 s.h.
Professor Adams
Psychology 309. Theory of Learning.-3 s.h. Professor Adams
Psychology 310. Seminar: Selected Problems in the Dynamics of Behavior. -3 s.h.

Professor Zenek
Sociology 249. Child Welfare.-3 s.h.
[Offered in Summer Session, 1950]
Professor Jensen
Sociology 381. Principles of Sociology.-3 s.h. Professor Jensen
Sociology 382. History of Sociological Theory.—3 s.h. Professor Jensen
FOR MAJORS in public school administration
Economics 217. Population Problems and Resources.-3 s.h.
Professor Spengler
Economics 233. State and Local Finance.-3 s.h. Professor Ratchford
Economics 234. Federal Finance.-3 s.h. Professor Ratchford
Economics 236. Taxation and Government Finance.-3 s.h.
Professor Ratchford
Political Science 209. State and Local Government in the United States.3 s.h.

Professor Rankin
Political Science 230. American Political Institutions.-3 s.h.
Professor Rankin
Political Science 231. American Political Theory.-3 s.h.
Assoclate Professor Halluwell
Political Science 241-242. The Administrative Process.-6 s.h.
Professok Connery
Political Science 291. Municipal Government.-3 s.h. Professor Rankin Political Science 292. Municipal Administration.-3 s.h.

Professor Kankin

Sociology 233. Rural Sociology.-3 s.h.
Professor Thompson
[Offered in Summer Session, 1950]
Sociology 235. Urban Sociology.—3 s.h. Professor Thompson
Sociology 237. Community and Society.-3 s.h. Professor Thompson
Sociology 243. Social Attitudes and Collective Behavior.-3 s.h.
Associate Professor Schettler
Sociology 246. Public Opinion and Propaganda.-3 s.h.
Associate Professor Schettler
FOR MAJORS IN HISTORY AND PHILOSOPHY OF EDUCATION
History 209-210. Constitutional History of the United States, 1763-1860.6 s.h.
[Not offered in 1950-51]
Philosophy 205. The Philosophy of History.-3 s.h. Professor Widgery
Philosophy 208. Political Philosophy.-3 s.h.
Philosophy 223. Contemporary Philosophy.-3 s.h. Professor Patterson
Religion 395. Religious Thought in Colonial America. -3 s.h.
Professor Smith
Religion 396. American Religious Thought in the Nineteenth Century. 3 s.h.

Professor Smith
Sociology 286. Social Ethics.-3 s.h. Professor Hart
Sociology 381. Principles of Sociology.-3 s.h. Professor Jensen
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen

## ENGLISH

PROFESSOR IRVING, CHAIRMAN-2G5 WEST DUKE BUILDING; PROFESSOR BAUM, director of graduate studies- 402 library; professors brinkley, gilbert, cohdes, and hubbell; associate professors leary and ward
Candidates for the degee of Master of Arts are required to elect 203-204 ( 3 or 6 s.h.). They will also elect one of the period courses (215-216, 219220, 221-222, 223-224, 229-230, 233-234, 247-248, 249-250, 251-252) and its corresponding seminar ( $349-350$ ) ; and 12 (or 9) additional semester hours.

## FOR SENIORS AND GRADUATES

201-202. Anglo-Saxon.-In the first semester, an introduction to the language, with the reading of selected prose and of some of the shorter poems; iil the second semester, the Beowulf. 6 s.h. (w) Professor Baum [Not offered in 1950-51]
203-204. Chaucer.-Reading and interpretation of the text; in the first semester, the principal Canterbury Tales; in the second, the Troilus and the minor poems. A reading report and a term paper. 6 s.h. (w)

Professor Baum
205-206. Middle English.-Close study of selected texts, with attention to the development of the language and to the history of the literature from 1200 to 1400 . A term paper each semester. 6 s.h. (w) Professor Baum

215-216. Elizabethan Drama.-Careful study of one or two major dramatists (Jonson or Beaumont and Fletcher) and extensive reading in the other writers (Heywood, Ford, Massinger, Marlowe, Middleton) with emphasis on the nature and qualities of their work in relation to its historical background. Exposition of plays, reports, and a term paper each semester. 6 s.h. (w)

Professor Gilbert
217. Milton.-Milton's poetry and prose, with emphasis on the major poems. 3 s.h. (w)

Professor Gilbert
[Not offered in 1950-51]
218. Spenser.-The reading of Spenser's work, with chief attention to The Facric Quccuc. 3 s.h. (w) Professor Gilbert

219-220. The Eighteenth Century.-Swift, Pope, Defoe, Addison, Steele, and others are studied in the first semester; in the second, Gray, Johnson, Boswell, Goldsmith, the letter writers, and the early Romantic poets. Lectures, oral reports, and a term paper each semester. 6 s.h. (w)

Professor Irving
221-222. English Literature of the Early Nineteenth Century.-The British Komantic poets and prose writers from Scott to the early Carlyle, with special attention to Wordsworth, Coleridge, and Keats. While these writers will be approached historically, the main object will be to understand and estimate the aesthetic and ethical values of their writings. Discussion and short papers. 6 s.h. (E)

Visiting Professor Foerster
223-224. English Literature of the Later Nineteenth Century.-Some of the most important works of the period are discussed in class; the background is filled in by lectures and assigned reading. The first semester is devoted chiefly to Carlyle, Dickens, Thackeray, Tennyson, and Browning; the second semester to Arnold, Ruskin, Pater, George Eliot, Meredith, the Pre-Raphaelites, and Swinburne. A term paper each semester. 6 s.h. (w) Professor Baum
[Not offered in 1950-51]
227. Literary Criticism.-A study of the Greek and Roman critics, in chronological order but with emphasis on their permanent value rather than on the mere history; also of the Continental and English critics to about 1700. Lectures, reports, and a term paper. 3 s.h. (w) Professor Gilbert
229-230. American Literature, 1800-1870.-The writers emphasized in the first semester are Emerson, Thoreau, and Hawthorne; in the second semester, Poe and Melville. In the first semester some attention is given also to Edwards, Franklin, Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman; and in the second semester, to Byrd, Jefferson, Paine, Freneau, Brown, Irving, Cooper, Kennedy, Simms, Timrod, and Lincoln. An oral report and a term paper in the first semester. 6 s.h. (E)

Professor Hubbell and Associate Professor Leary
233-234. American Literature since 1870.-Selected works of the chief writers of the period, including Whitman, Lanier, Mark Twain, James, Howells, Emily Dickinson, Crane, Dreiser, and others. The lectures deal with the social lackground and with the careers of the leading authors. One test and one term paper each semester. 6 s.h. (e)

Professor Gohdes
235. History of American Drama.-The development of the theater and of dramatic literature in America. Emphasis will be placed on the drama as a reflection of the philosophical and social influences which affected American writing in other fields. 3 s.h. (w)

Associate Professor Leary
[Not offered in 1950-51]
237, English Drama, 1642-1800.-The Heroic Play and the Comedy of Mamers of the Restoration period; and the important plays, serious and comic, of the eighteenth century. Lectures, class discussions, and short reports. 3 s.h. (w)

Associate Professor Ward
[Not offered in 1950-51]
239. Shakespeare.-A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 3 s.h. (w)

Professor Gilbert
[Not offered in 1950-51]
241. Studies in Dryden.-A detailed study of the poet's non-dramatic work. Lectures on the political, religious, and literary background. A term report. 3 s.h. (w)

Associate Profesgor Ward
[Not offered in 1950-51]
247. Literature in Colonial America.-A study of what was written and read by American colonials. Roger Williams, Edward Taylor, Jonathan Edwards, William Byrd, Benjamin Franklin, and Francis Hopkins are among the writers discussed. Lectures, assigned readings, and occasional papers. 3 s.h. (w) Associate Professor Leary
248. Literature in America, 1775-1820.-The development of a national literature. Philip Freneau, Timothy Dwight, Joel Barlow, Joseph Dennie, Charles Brockden Brown, William Dunlap, and James Kirke Paulding are among the writers discussed. Lectures, assigned readings, and occasional papers. 3 s.h. (w)

Associate Professor Leary
249-250. English Literature in the Sixteenth Century.-In the first semester, the beginnings of the drama; Barclay and Skelton; More, Elyot, Cheke, and their circles; Ascham; Tottel's Miscellany and A Mirror for Magistrates; Gascoigne; North, Sir Thomas Hoby, and the translators; Lyly ; Spenser. In the second semester, Sidney; the sonnet sequences; Marlowe, Kyd, and Peele; Greene, Lodge, Nashe, and Dekker; Shakespeare; Chapman; Jonson. Some of the most important works of the period are discussed in class; the background is filled in by lectures and assigned readings. Short reports on assigned topics and a term paper each semester. 6 s.h. (w)
[Not offered in 1950-51]
251-252. English Literature in the Seventeenth Century.-A survey of the major works in prose, poetry, and drama from 1600 to the death of Dryden. Lectures, reports, and a term paper each semester. Associate Professor Ward

269-270. Southern Literature.-The principal writers discussed during the first semester are Byrd, Jefferson, Wirt, Kennedy, the Cooke brothers, Legaré, Simms, Timrod, Hayne, Longstreet and other humorists, and the poets of the Civil War. Considerable attention is paid to the historical and cultural background and to Northern and British authors who wrote about the South. An oral report and a term paper each semester. 6 s.h. (w) Professor Hubbell
[269 will be offered in the spring semester]

## FOR GRADUATES

303. Coleridge.-A study of Coleridge's work as poet and critic, with special emphasis upon his relation to the seventeenth century. Lectures, written and oral reports, one long paper. 3 s.h. (E)

Professor Brinkley
[Not offered in 1950-51]
304. Studies in the Metaphysical Poets.-Donne and his followers and their relationship to twentieth-century poetry. Lectures, discussions, reports. Occasional short papers, and a longer study of one poet. 3 s.h. (E)
[Not offered in 1950-51]
Professor Brinkley
349-350. Seminar Courses.-An introduction to bibliography and methods of research. One of these courses is required of all candidates for the degree of Master of Arts. 6 s.h. (w)
(a) Sixteenth and Seventeenth Centuries.

Professor Gilbert and Associate Professor Ward
(b) Eighteenth Century.

Professor Irving
(c) Early Nineteenth Century.
(d) Later Nineteenth Century.

Professor Baum
(e) American Literature.
[In 1950-51 (a), (b), and (e) will be offered; and (d) (3 s.h.) in the spring semester.]

359-360. Research Courses.-Opportunity for advanced study; intended specially for candidates for the Ph.D. degree. 3 or 6 s.h. (w) Staff

## RELATED COURSES IN OTHER DEPARTMENTS

The attention of students in English is directed to the following courses: German 201-202. Goethe.-6 s.h.

German 301-302. Gothic-Middle High German.-6 s.h.
Professor Vollmer
Greek 201-202. Greek Tragedy.-6 s.h. Assistant Professor Truesdale
History 207-208. Social and Cultural History of the United States.-6 s.h.
Professor Robert
History 221-222. The Age of the Renaissance.- 6 s.h.
Associate Professor Nelson
History 337. Social and Economic Life of the Old South.-4 s.h.
[Not offered in 1950-51]
Professor Sydnor
Philosophy 201-202. The Philosophy of Art.-6 s.h. (e) Professor Gilbert
Philosophy 213-214. History of Aesthetics.-6 s.h. (E) Professor Gilbert
Psychology 224. Psychology of Aesthetics.—3 s.h. Professor Lundholm
Romance Languages 213, 214.-French Classicism.-6 s.h.
Professor Walton
Romance Languages 215-216.-The Modern French Novel.-6 s.h.
Professor Jordan
Romance Languages 219. Old French.-3 s.h.
Professor Cowper
Romance Languages 232, Rousseau and the Beginnings of Romanticism. 3 s.h.

Professor Cowper

## FORESTRY

PROFESSOR KORSTIAN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES- 307
SOCIAL SCIENCE; PROFESSORS BEAL, COILE, HARRAR, KRAMER, SCHUMACHER, THOMSON, AND WOLF
Major and minor work is offered in the more scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy degrees to students who have received degrees from professional schools of forestry of recognized standing or from approved colleges or universities. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, silvics, forest soils, forest mensuration, forest management, forest entomology, and forest economics, except that a major cannot be taken in forest management. College graduates who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them. Students who do not have previous training in forestry will be required to complete a minimum of thirty semester hours of approved work in the Division of Forestry as a preliminary requirement for admission to candidacy for the A.M. and Ph.D. degrees. These men will not be regarded as professionally trained foresters. For information on professional training in forestry, see Bulletin of the School of Forestry.

FOR SENIORS AND GRADUATES
224. Forest Pathology.-Special reference to diseases of forest trees. Prerequisites: Botany 1 and 2, and Forestry 253, or equivalents. 4 s.h.

Professor Wolf
231. Forest Entomology.-Morphology, general classification, life histories, and control of insects injurious to forest trees, logs, and lumber. 3 s.h.

Professor Beal.
251. Sampling Methods in Forestry.-Statistical background for solution of sampling problems with special reference to sample inventory of a forcst property. Offered both semesters. Prerequisite: Forestry S151. 3 s.h.

Professor Schumacher
252. Forest Mensuration.-Empirical equations and curve fitting appropriate for construction of timber yield tables, trec volume and taper tables; significance tests and graphical solution of equations. Assignments requirc operation of calculating machines. Prerequisite: Forestry 251. 2 s.h.

Professor Schumacher
253. Dendrology.-Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest rcgions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h.

Professor Harrar
257. Design of Forestry Experiments and Analysis of Data.-Role of experimental design in field and laboratory, and statistical analysis of data as aspects of scientific method in forest research. 5 s.h. Professor Schumacher
259. Wood Anatomy.-Study of the physical features and the gross and minute structural characteristics of wood leading to the identification of the commercial woods of the United States, and the important tropical woods used in American wood-working industries. Elementary microtechnique. Prerequisites: one year of botany. 3 s.h. (w) Professor Harrar
260. Properties of Wood.-The chemical nature of wood substance and its industrial chemical derivatives. Wood-moisture relationships: pertinent non-mechanical physical properties; mechanical properties and factors affecting the strength of wood; standard timber testing procedures. Uses of woods as determined by their properties. Prerequisites: Forestry 259, one year of college chemistry ; one course of college physics. 3 s.h. (w) Professor Harrar
261. Forest Soils.-Origin, development, and classification of soils with special emphasis on those developed in humid climates; morphological, physical, and chemical properties of soils in relation to growth of trees; effect of forests on soils. Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalents; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h.

Professor Coile
263. Silvics.-Ecological foundations of silviculture with special reference to forest site factors; influence of forcsts on their environment; growth and development of trees and stands; origin, devclopment, and classification of forest communities; methods of studying forest environments. Desirable prerequisites: plant physiology, plant ecology, and Forestry 253 and 261, or equivalents. 3 s.h. Professor Korstian
275. Forestry Policy.-Critical study of forestry movement and development of a forestry policy, particularly in the United States; brief résumé of forestry in important foreign countries; public land laws of the United States; development of federal and state forestry; forestry laws. 2 s.h.

Professor Thomson
277. Economics of Forestry.-Principles of forest economics. Contributions of land, lahor, and capital to income from forestry enterprises; costs of production and maintenance of forest income; forest resources and requirements in products and services; consumption and prices of forest products; forest ownership problems; forest appraisal and comparative valuation; forest fire insurance and forestry credit; forest taxation; timber marketing problems; effect of business cycles and long-term trends upon demand and prices of forest products. Prerequisite: at least one course in the principles of economics. 3 s.h.

Professor Thomson

## FOR GRADUATES

323-324. Advanced Forest Pathology.-Advanced study and research on life histories and control of diseases of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and forest pathology. Credits to be arranged.

Professor Wolf
351-352. Advanced Physiology of Forest Trees. - - dvanced study and research on problems in physiology of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and plant ecology or silvics. Credits to be arranged.

Professor Kramer
354. Forest Soil Fertility.-Experimental approach to the problems of fertility in forest soil. Influence of stand composition on nitrogen transformation. Methods of studying the exchange complex and the significance of base exchange in forest soil fertility. Prerequisites: Forestry 251 and 261, plant plysiology, bacteriology and analytical chemistry. 3 s.h. Professor Coile
356. Comparative Forest Valuation.-Critical analysis of classical and contemporary doctrines of comparative forest valuation. Principles underlying the measurement of forces affecting values of land for forestry and alternative uses and investments of capital. Solution of problems involving procedures hased upon these principles. Prerequisite: Forestry 277 or equivalent; courses in economic theory are desirable. 2 s.h. Professor Thomson

357-358. Research in Forestry.-Credits to be arranged. Students who have had adequate training may do research under direction of members of the Faculty in the following branches of forestry:
a. Silvics.-Prerequisites: Forestry 253, 261, and 263, or equivalents.

Professor Korstian
b. Forest Soils.-Prerequisite : Forestry 261 or equivalent.

## Professor Coile

d. Forest Management.-Prerequisite: Forestry 280 or equivalent.
e. Forest Economics.-Prerequisite : Forestry 277 or equivalent.

Professor Thomson
f. Properties of Wood.-Prerequisites: Forestry 259 and 260 , or equivalents.

Professor Harrar
g. Forest Mensuration.-Prerequisites: Forestry S151, 251, and 252, or equivalents.

Professor Schumacher
h. Forest Entomology.-Prerequisite : Forestry 231 or equivalent.

Professor Beal

## GERMANIC LANGUAGES AND LITERATURE

professor vollmer, chairman and director of graduate studies-106 social SCiENCE; AsSoctate professor shears
201-202. Goethe.-A careful study of Goethe's life and works, with special emphasis upon the broader aspects of his ever-widening interests and literary activities. 6 s.h.

203-204. Eighteenth Century.-Eighteenth-century German literature in its relation to contemporary European philosophy, 6 s.h.
[Offered in 1950-51]
Professor Vollmer
205-206. Middle High German.-The language and literature of Germany's first classical period. 6 s.h.

Professor Vollmer
207-208. German Romanticism.-The course covers the entire field of German Romanticism from 1800 to 1850 . 6 s.h.

Professor Vollmer
209-210. Kleist, Grillparzer, and Hebbel.-A study of the leading represcitatives of German drama in the first half of the nineteenth century. 6 s.h.

211-212. Heinrich Heine.-A study of the German poet and his immediate successors in the movement known as Jungdeutschland. 6 s.h.

Professor Vollmer
213-214. Literature of the Empire, 1871-1914.- A study of the literature of this period with special emphasis on a few leading writers such as Fontane, Hauptmann, Mann and Hesse. 6 s.h.

Associate Professor Shears
[Offered in 1950-51]

## FOR GRADUATES ONLY

301-302. Gothic-Middle High German.-In the first term the essentials of Gothic morphology, phonology, and grammar are investigated, and original Gothic literature is read. In the second term the leading medieval German epics are read in the original. 6 s.h.

Professor Vollmer
303-304. German Seminar.-A seminar will be conducted in an eighteenthor nineteenth-century field for properly qualified students. Credit to be arranged.

Professor Vollmer

## RELATED COURSES IN OTHER DEPARTMENTS

The following courses in other departments are recommended to students who are majoring in Germanies, as particularly valuable in building a proper background for Germanlic studies:
(a) Graduate courses in literature or philology, offered by the aneient and modern language departments, to be selected after consultation with the Germanic Department.
(b) Graduate courses in history and philosophy, offered by those departments, to be selected after consultation with the Germanic Department.

## HISTORY

PROFESSOR LAPRADE, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES-2B WEST DUKE BUILDING; PROFESSORS CARROLL, CLYDE, LANNING, ROBERT, AND SYDNOR;

ASSOCIATE PROFESSORS CURTISS, HAMILTON, MANCHESTER, NELSON, ROBERT, ROPP, AND WOODY; ASSISTANT PROFESSOR PARKER

For admission to candidacy to a Master's degree in History the student must present a total of eighteen semester hours of prior work in History, of which at least six must be in American History if he plans to take his major work in that field.

In addition to the preliminary examination deseribed on page 36 , a candidate for the degree of Doctor of Philosophy in History is required to pass, prior to the oral examination on his thesis and his major field, final examinations in three fields of history in addition to his major field; a related subject may be substituted for one of these three fields. The history of the United States and the history of Western Europe must constitute two of these fields unless the major is in the history of the United States or in the history of Western Europe. in which case examination in that field is a part of the final oral examination. The Department is at present prepared to offer graduate in-
struction in the following fields of history: The history of Western Europe to 1648 ; the history of Western Europe since 1648 ; the history of the United States; the history of England; the history of Latin America; the history of American Foreign Relations; the history of the Modern Far East; the history of Russia.

## AMERICAN HISTORY <br> FOR SENIORS AND GRADUATES

203-204. The United States, 1850-1900.-The rise of sectionalism, secession, wartime problems of the Union and Confederacy, political and economic adjustments of Reconstruction, the status of the Negro, the New South, problems of capital and labor, the agrarian revolt, political parties and reform, the Spanish-American War. 6 s.h. Associate Professor Woony

207-208. Social and Cultural History of the United States.-A study of Amcrican life and manners with emphasis on the social effects of a changing economy, including religious, educational, and reform movements. 6 s.h.

Professor Robert
209-210. Constitutional History of the United States, 1763-1860.-A study of the Colonial foundations of American constitutional attitudes, the constitutional aspects of the American Revolution, the framing and ratification of the Constitution, the statehood process and the extension of democracy, the constitutional implications of sectional conflict, and the Supreme Court in its relation to the problems of an industrial America. 6 s.h.
[Not offered in 1950-51]
215-216. Foreign Policy and Diplomacy of the United States.-The work in the first semester, covering the period 1775-1877, deals with such topics as the origins and evolution of basic foreign policies; isolation from Europe; paramount interests in Latin America, including the Monroe Doctrine; international co-operation in the Far East. The work in the second semester, covering the period since 1877, deals with such topics as the rise of the new Manifest Destiny; beginnings of American imperialism in Latin America and the Far East; the failure of traditional neutrality in the first World War; postwar conflicts between isolation and collective security; involvement in the second World War. 6 s.h.

Professor Clyte
[Not offered in 1950-51]
230. The Portuguese Empire and the Rise of Brazil.-The course will deal with Portuguesc explorations, the establishment of the Portuguese Empirc in the East, the transplanting of Portuguese culture overseas, and the rise of a native Brazilian civilization. 3 s.h. Associate Professor Manchester
231. The Hispanic Colonies of the New World.-The development of the Iberian states as colonizing powers. the work of the conquerors, the Spanish colonial policy and system, their influences and results, native races, the international contest for supremacy, and the decay of Spanish power in America and the Philippincs. 3 s.h.

Professor Lanning
[Not offered in 1950-51]
232. The Hispanic American Republics.-3 s.h.

Professor Lanning
[Not offered in 1950-51]
233. The Cultural and Institutional History of Colonial Hispanic Amer-ica.-3 s.h.

Professor Lanning
234. Political and Social Problems in the Hispanic American Republics.3 s.h.

Professor Lanning
263-264. American Colonial History and the Revolution, 1606-1783.-The growth of institutions and economic life in the English colonies; the American Revolution. 6 s.h.

Associate Professor Woody
[Not offered in 1950-51]

265-266. The Westward Movement in the United States.-A study of the progress of settlement from the Atlantic to the Pacific Coast with especial attention to the transmission of culture, developments in transportation, the transition from agrarian to urban communities, the process of state making, and the social economic, and political effects of the westward march upon the United States as a whole. 6 s.h.
[Not offered in 1950-51]

## FOR GRADUATES

315. Seminar in Southern History.-Year course. 2 s.h.

Professor Sidnor and Associate Professor Woody
321. Seminar in the History of Spain and the Spanish-American Colonies. - Year course. 2 s.h.

Professor Lanning
336. The South in Federal Politics, 1789-1860.-The interests and political actions of the South on such questions as public lands, internal improvements, foreign policy, the tariff and slavery; the political techniques and theories of the South. Year course. 4 s.h.

Professor Sydnor
[Not offered in 1950-51]
337. Social and Economic Life of the Old South.-Conditions and trends in the South in respect to population movements, transportation, agriculture, slavery, urban life, commerce, manufacturing, religion, education, and other intellectual activities. Year course. 4 s.h.

Professor Sydnor
[Not offered in 1950-51]

## EUROPE AND THE FAR EAST

## FOR SENIORS AND GRADUATES

217-218. Europe since 1870.-International relations since the FrancoGerman War is the chief subject of study in this course; special emphasis is placed upon the underlying economic and political influence. 6 s.h.

Professor Carroli.
219-220. The History of the European Proletariat.-This course is concerned chiefly with the origins, expansion, and organization of the industrial working classes of Europe. The following problems are emphasized: the decline of serfdom, the growth of an urban working class and social revolutions in England. France, and Germany prior to the eighteenth century, the results of the Industrial Revolution, and labor movements and theories during the nineteenth and twentieth centuries. 6 s.h. Professor Carroll
[Not offered in 1950-51]
221-222. The Age of the Renaissance.-The decline of characteristic features of medieval civilization and the rise of modern European institutions with particular attention to intellectual movements from Dante to Erasmus. 6 s.h.

Associate Professor Nelson
225-226. The Age of the Reformation.-A survey of European civilization from 1500 through the Peace of Westphalia. 6 s.h.
[Not offered in 1950-51]
Associate Professor Nelson
227-228. The Napoleonic Empire and Its Aftermath.-A study in the first term of the conditions favoring the rise of Napoleon, the details of his rise to power, the characteristics of his Empire, its importance for European civilization, its decline and collapse, and the attempts of the conservatives at the Congress of Vienna to restore in part the pre-revolutionary world. The theme in the second term is the gradual disintegration of the settlement of Vienna through the ensuing decades to the unification of Germany in 1871. 6 s.h.
[Not offered in 1950-51]
Assistant Professor Parker
235. War in the Modern World.-This course. which deals with military and naval history since Napoleon, is concerned with the relations between war and modern political, economic, or social conditions rather than with the details of battles. Special attention is given to British and American military methods and to events in the American Civil War and the two World Wars. 3 s.h. Associate Professor Ropp
241-242. Nationalism and Revolutionary Movements in the Far East since 1900.-The course deals with the industrialization of modern Japan and the rise of militaristic and totalitarian trends; modernization, republican, and communist movements in China; nationalism in Southeast Asia; American relations with these derclopments. 6 s.h.

Professor Clyde
261-262. Russia in the Twentieth Century.-A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. 6 s.h.

Associate Professor Curtiss

## FOR GRADUATES

305. Seminar in the History of England and the British Empire.-The work consists of practical training in the methods of historical research baser on sources for modern British history. Year course. 2 s.h.

Professor Laprane
317. Seminar in Recent European History.- l'car course. 2 s.h.

Professor Carroll
325. British Nationality and Public Opinion. $-\Lambda$ study of the various political and social groups that have contended for power in England since the sixteenth century and the methods they used. Year course. 4 s.h.

Professor Laprade
327. Modern Phases of the English Constitution.-A bricf review of the medieral constitution followed by a morc intensive study of certain aspects of its development in the sixteenth, seventeenth, and eighteenth centuries. Year course. 4 s.h.

Professor Laprade
[Not offered in 1950-51]
343. Seminar in the History of American Foreign Relations and the Far East.-Year course. 2 s.h.

Professor Clyne:

## historiography and the teaching of history

## FOR SENIORS AND GRADUATES

211. The Teaching of History and the Social Studies.-The work consists of a discussion of the question of aims and values in teaching history and cirics, textbooks, programs of study, methods of instruction, the use of maps and pictures, the making of lesson plans for use in the high school, and other problems of high-school teaching. 3 s.h. Associate Professor Manchester

> FOR GRADUATES
312. Seminar in the Teaching of History in College.-The work in this course is intended to acquaint students with the problems involved in teaching history in college., It includes critical observation of the teaching by members of the History Staff in Duke University. Year course. 2 s.h.

Associate Professors Manchester and Hamilton
This course is required of all candidates for the degree of Doctor of Philosophy who are in residence as many as two years in Duke University unless excused therefrom by the Department.
320. Historiography.-A critical study of the process of finding, appraising, and interpreting the sources of history and of the presentation of the results in narrative. Works of important historians from Herodotus to the present are analyzed. The student undertakes specific exercises in research,
rriticism, and narration. There is consideration of such general topics as schools, theories, philosophies, and the function of history. Year course. $4 \mathrm{~s} . \mathrm{h}$.

Associate Professor Nelson
This course is required of all candidates for the degree of Doctor of Philosophy who are in residence as many as two years at Duke University unless excused therefrom by the Department.
329. Historiography of the South.-Attention is given to the more important printed and manuscript sources and to the writings of the older historians. Bibliographical and research problems are introduced. Year course. 4 s.h.

Associate Professor Woody
[Not offered in 1950-51]
RELATED COURSES IN OTHER DEPARTMENTS
Economics 215. Economic Systems.-3 s.h. Professor Honver
Economics 216. Economic Functions of the State.-3 s.h.
Professor Hoover
Economics 231. The Economic History of Europe.-3 s.h.
Professor Smith
Economics 311-312. History of Political Economy.-6 s.h.
Professor Spengler
Political Science 223. Political Thought to the Seventeenth Century.3 s.h.

Professor Wilson
Political Science 224. Modern Political Theory.-3 s.h. Professor Wilson and Associate Professor Hallowell
Religion 309. History of the Ancient Near East.-3 s.h.
Professor Stinespring
Religion 395. Religious Thought in Colonial America.- 3 s.h.
Professor Smith
Religion 396. American Religious Thought in the Nineteenth Century.3 s.h.

Professor Smith
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen

## MATHEMATICS

fRofessor gergen, CHAIRMAN-220 physics building; professor roberts, director of graduate studies-219 physics building; professors

CARLITZ, ELLIOTT, RANKIN, AND THOMAS; ASSOCIATE PROFESSOR DRESSEL
The Department normally offers one or more courses in each of the main divisions of mathematics: algebra, analysis, geometry, and applied mathematics.

The Master's degree with major in mathematics is awarded primarily on the basis of scholarship. The candidate's preliminary mathematical work for the degree must be approved by the Department through the Director of Graduate Studies. It must include differential and integral calculus and an additional six semester hours of work in mathematical courses of at least Junior level. Eighteen of the twenty-four semester hours of course work required by the general regulations for the degree must be taken in the Department.

The Doctor's degree with major in mathematics is awarded as a recognition of potential ability and training in research. The original dissertation is the most important of the formal requirements for it. A candidate should have this requirement in mind from the outset and plan his courses accordingly.

Because of the important mathematical literature in French and German, a student taking graduate work in mathematics should have a practical reading knowledge of these languages near the beginning of his graduate study.

The program for $1950-51$ is as follows: Fall semester, 229, 235, 255, 285, 291, 343,371 ; spring semester, 230, 236, 256, 286, 292, 344, 372.

## FOR SENIORS AND GRADUATES

201. History of Mathematics.-Evolution of the number system, arithmetic, geometry, algebra, trigonometry, analytic geometry, calculus, and modern geometry. Brief sketches of nathematicians. Prerequisite: differential calculus. 3 s.h.

Professor Rankin
204. Teaching of Mathematics.-Fundamental processes, methods of study, mathematical literature, content of courses, applications, use of instruments, correlation of different branches, historical development of secondary school mathematics. Must be preceded or accompanied by integral calculus. 3 s.h. Professor Rankin
226. Galois Theory of Equations.-Permutation groups, group of an equation, solvability by radicals. Prerequisite: calculus. 3 s.h. Professor Thomas

227-228. Theory of Numbers.-Congruences, arithmetic functions, compound moduli, quadratic reciprocity, Gauss sums, quadratic forms, sums of squares. Prerequisite: calculus. 6 s.h.

Professor Carlitz
229-230. Algebraic Numbers.-Ideals, unique factorization, divisors of the discriminant, determination of the class number. Prerequisite: theory of equations. 6 s.h.

Professor Carlitz
235-236. Abstract Algebra.-Groups, fields, rings, matrices, quadratic and bilinear forms, general Galois theory, hypercomplex systems. Prerequisite: calculus. 6 s.h.

Professok Carlitz
250. Higher Geometry.-Properties of the triangle, transversals, harmonic properties of figures, poles, polars, inversions. 3 s.h.

Professor Thomas
255-256. Projective Geometry.-Postulational, synthetic treatment centering around Desargues' theorem and the principle of projectivity. Conics, coördinates, order, continuity, metric properties. Prerequisite: calculus. 6 s.h. Professor Thomas
258. Finite Differences.-Interpolation formulas, symbolic methods, polynomials of Bernoulli and Euler, numerical differentiation and integration, difference equations. Prerequisite: calculus. 3 s.h.

Professor Carlitz
271-272. Introductory Topology.-Topological properties of Euclidean spaces, set-theoretic and combinatorial methods. Prerequisite: calculus. 6 s.h. Professor Roberts
275. Probability.-Combinatory analysis, mean values, Bernoulli's theorem, probability integral, applications to statistics. Prerequisite: calculus. 3 s.h.

Associate Professor Dressel.
285-286. Mathematical Analysis for Physicists.-Potentials, Fourier series, Legendre polynomials, Bessel functions, heat equation, wave equation, telegraphic equation, Schrödinger's equation. Prerequisite: calculus. 6 s.h.

Associate Professor Dressel
291-292. Theory of Functions.-Limits, implicit functions, power series, double series, Cauchy's theorem and its applications, residues, Riemann surfaces, conformal mapping. Prerequisite: calculus. 6 s.h. Professor Gergen

## FOR GRADUATES

301-302. Algebraic Geometry.-Homogeneous coördinates, singular points and lines, Newton's polygon, Plucker's equations, intersections of curves. Prerequisite: Mathematics $255-256$. 6 s.h.

Professor Thomas
325-326. Real Variable.-Number system, theory of sets, transfinite numbers, Baire classes, Lebesgue, Stieltjes and Denjoy integrals, linear operations. Prerequisite: Mathematics 291-292. 6 s.h.

Professor Gergen

331-332. Complex Variable.-Analytic continuation, univalent functions, meromorphic functions, analytic functions of several complex variables. Prerequisite: Mathematics 291-292. 6 s.h.

333-334. Analytic Theory of Numbers.-Distribution of primes, primes in an arithmetic progression, Waring and Goldbach problems. Prerequisite: Mathematics 291-292. 6 s.h.

Professor Carlitz
337-338. Existence Theorems.--Systems of partial differential equations, Pfaffian systems, theorems of Cauchy, Riquier, and Cartan, singular integral varieties. Prerequisite: Mathematics 291-292. 6 s.h. Professor Thomas

341-342. Integral Equations.-Volterra and Fredholm integral equations, application to boundary problems of differential equations. Prerequisite: differential equations and advanced calculus. 6 s.h.

Professor Elliott
343-344. Ordinary Differential Equations.--Solution by separation of variables, exact differentials, integrating factors, solution in series. Cauchy's existence theorem, linear differential systems, singular points, partial differential equations equivalent to ordinary systems. Prerequisite : Mathematics 291-292. 6 s.h.

Professor Thomas
351-352. Differential Geometry.-Curves and surfaces in three-dimensional Euclidean space, applicability, differential parameters, Riemamian geometry of n-space. Prerequisite: calculus. 6 s.h.

Professor Thomas
353-354. Trigonometric Series.-Topics in the theory of trigonometric series, related results in Lebesgue integration and complex variable. Prerequisite: Mathematics 325-326. 6 s.h.

Professor Gergen
371-372. Dimension Theory.-Abstract spaces, separation theory for Euclidean spaces, dimension theory. Prerequisite: Mathematics 271-272. 6 s.h.

Professor Roberts
373-374. Continuous Transformations.-Recent results concerning a number of special types of continuous transformations. Prerequisite: Mathematics 271-272. 6 s.h.

Professor Roberts
382. Potential Theory.-Properties of harmonic functions, boundary value problems, potentials of general mass distributions. Prerequisite: Mathematics 325-326. 3 s.h.

Professor Gergen

## PHILOSOPHY

frofessor negley, chairman-3-I west duke bullding; professor patterson, director of graduate studies-3-I west duke building; proressors gllbert and widgery; associate professor melarty; assistant professor welsh for Seniors and graduates
201-202. The Philosophy of Art.-Analysis with the aid of examples of general terms used in the discussion of art. Reference to recent aesthetic theories. 6 s.h. (E)

Professor Gilbert
203. Contemporary Ethical Theories.-Reading and discussion of twen-tieth-century American and British moralists. 2 s.h. Professor Negley
205. The Philosophy of History.-An inquiry into the logic and methodology of the knowledge of history, and into the metaphysical implications of history. 3 s.h.

Proressor Widgery
208. Political Philosophy.-Analysis of the structure of social organization, with particular reference to the function of legislation in democratic politics. 3 s.h.

Professor Negley
209-210. The Philosophy of Religion.-A critical consideration of the data of empirical religion and the constructive development of modern philosuphy of religion. $6 \mathrm{~s} . \mathrm{h}$.

Professor Widgery
211. History of Ancient Philosophy.-Topic for 1950-51: The Later Dialogues of Plato. $3 \mathrm{~s} . \mathrm{h}$. Associate Professor McLarty
212. History of Modern Philosophy.-Topic for 1950-51: British Idealists. 3 s.h.

Professor Patterson
213-214. History of Aesthetics.-Theories of art and beauty from Pythagoras to Croce. 6 s.h. (E)

Professor Gilbert
217. The Philosophy of Aristotle.-Prerequisite: 93 or 211.3 s.h.

Associate Professor McLarty
218. Mediaeval Philosophy.-A study of the philosoply of the Middle Ages with special attention to selected texts from the works of Christian, Jewish and Arabian philosophers. 3 s.h.

Professor Patterson
223. Contemporary Philosophy.-Topic for 1950-51: Recent Epistemological Theory. 3 s.h.

Professor Patterson
225. Locke, Berkeley, Hume.-3 s.h.

Assistant Professor Welsh
231. Philosophy of Science.-An historical and critical survey of the basic philosophical ideas underlying the development of modern science. $3 \mathrm{~s} . \mathrm{h}$.
236. Oriental Philosophy I. Chinese Philosophy.-3 s.h.

Professor Widgery
238. Oriental Philosophy II. Indian Philosophy.-3 s.h.

Professor Widgery
242. Scientific Methodology.-A survey of the methods used in the various natural and social sciences. 3 s.h.

FOR GRADUATES
301a-302a, 301b-302b. Seminar in Philosophy.-Special problems, chiefly metaphysical. 3 s.h.

Professor Widgery
307. Seminar: Kant.-3 s.h.

Professor Negley
308. Seminar: Hegel.-A study of a selection of the text together with recent interpretations. 3 s.h.

331-332. Seminar in Special Fields of Philosophy.-3 s.h. each semester.
(a) Logic; (aa) Philosophy of Science.
(b) Ethics; (bb) Political Philosophy. Professor Negley
(c) Aesthetics.
(d) Philosophy of Religion; (dd) History.

Professor Gilbert
(e) and (ee) History of Philosophy. Professors Wingery and Pattreson
341. Seminar: Problems of Political and Legal Philosophy.-3 s.h.

Professor Negley

## PHYSICS

frofessor NiElsen, Chairman- 119 physics building; professor nordheim, dIRECTOR OF GRADUATE STUDIES-209 PHYSICS BUILDING; PROFESSORS HATLEY, GORDY, NEWSON, AND SPONER; ASSOCIATE PROFESSOR SMITH; ASSISTANT PROFESSOR GREULING
The Department of Physics makes provision for both beginning and atvanced graduate students. The courses are designed to give a broad basic foundation in classical and modern physics.

All graduate students will first be expected to acquire a thorough knowledge of the various branches of classical physics as well as some familiarity with modern physics and basic laboratory skills. They will be required to take
such course work in the 200 group of studies as may be necessary to complete this foundation.

To complete their course requirements in physics, graduate students will take such advanced courses as will best help them and fit them for the type of work in which they plan to specialize and undertake research. The character of the work in other related departments will also depend upon the field of subsequent specialization and research.

Since a reading knowledge of French and German is highly desirable, students are urged to satisfy the language requirements in both as early as possible.

201-202. Mechanics.-The fundamental principles of statics and the dynamics of particles and rigid bodies. Three recitations each week. 6 s.h. (w) Associate Professor Smith
203-204. Electricity and Magnetism.-Fundamentals of electricity and magnetism. Electrostatics and magnetostatics. Direct current circuits, and net works-bridges, potentiometers, galvanometers, alternating current circuits and networks. Electromagnetic waves. 6 s.h. (w)

Associate Professor Smith
205. Spectroscopy.-The theory of optical instruments and a discussion of spectroscopic laws and of information obtained by spectroscopic methods. Three lectures and one three-hour laboratory each week. 4 s.h. (w)

Professor Sponer
207. Sound and Acoustics.-Theory of vibrating systems. Mechanical-electrical-acoustical analogies. Emission and reception of sound, speakers and microphones. Transmission, reflection, refraction, diffraction and absorption of sound. Acoustical applications. Two lectures and one three-hour laboratory each week. 3 s.h. (w)

Professor Nielsen
213-214. Contemporary Physics.-A course which covers the fundamental concepts and the experimental basis of modern physics. Three lectures each week. 6 s.h. (w)

Assistant Professor Greuling
217-218. Advanced Physics Laboratory.-Measurements involving the fields of mechanics, electricity, magnetism, heat, sound, optics, and modern physics. ${ }^{2-6}$ s.h. (w)

The Staff
219. Introduction to Electronics.-Fundamentals of electron tubes. Motion of charged particles, space charge, gaseous conduction. Electron tube circuits. Three hours of lecture and one three-hour laboratory per week. 4 s.h. (w) Professor Gordy or Associate Professor Smith
220. Electron Circuit Analysis.-Linear and non-linear circuit analysis, electric oscillations, operation of filters, Fourier analysis of wave phenomena, coupling in electrical circuits. 3 s.h.

Professor Gordy or Associate Professor Smith
243. Elementary Nuclear Physics.-Radioactivity, nuclear transmutations, properties of nuclear radiations and sources of nuclear particles. 3 s.h. ( $w$ )

Professor Newson

## FOR GRADUATES

303. Thermodynamics.-Fundamental laws of thermodynamics and their applications to physics and chemistry. 3 s.h. Professor Sponer
304. Kinetic Theory of Matter.-Gas laws, Maxwell's distribution law; mean free path; viscosity; heat conductivity; diffusion; phenomena in gases at low pressure; specific heat ; entropy; probability and reaction kinetics. 3 s.h.

Assistant Professor Greuling
307. Advanced Mechanics I.-General dynamics of particles, systems of particles, and rigid bodies. The methods of Lagrange and Hamilton; general principles of mechanics. 3 s.h.

Professor Nordheim
308. Advanced Mechanics II.-Mechanics of deformable bodies. Statics and dynamics of elastic and fluid media. 3 s.h. (w) Professor Nordheim

315-316. Principles of Quantum Theory.-Original and fundamental concepts of quantum theory; wave and matrix mechanics; theory of measurements; exclusion principle and electronic spin. 6 s.h. Professor Nordheim
318. Theory of Electricity and Magnetism.-Electrostatics and potentiai theory. Dielectric and magnetic media. The magnetic field of currents and the law of induction. AC currents and networks. 3 s.h.

Assistant Professor Greuling
319. Electrodynamics.-Maxwell's system of electrodynamics. Production and propagation of electromagnetic waves. Wave optics. Theory of interference and diffraction. Crystal optics. 3 s.h.

Assistant Professor Greuling
320. Theory of Electrons.-Lorentz' equations of electrodynamics. Classical theories of dispersion, magnetism, and conductivity. Theory of relativity. 3 s.h.

Assistant Professor Greuling
323. Theory of Atomic Spectra.-Excitation of spectra, computation of wave lengths from photographs of spectra, study of the structure of atomic spectra with applications. 3 s.h.

Professor Sponer
324. Theory of Molecular Spectra.-A study of the structure of molecular spectra with applications. 3 s.h. Professor Sponer
331. Microwave Theory and Application.-Microwave generators, cavity resonators, transmission lines, radiation propagation and detection. 4 s.h. Professor Gordy
335. Microwave Spectroscopy.-Application of microwaves in the determination of molecular, atomic, and nuclear properties. Stark and Zeeman effects in microwave spectroscopy. Magnetic resonance absorption. 3 s.h. (w)

Professor Gordy
340. Structure of Matter.-Selected topics dealing with the constitution of matter such as crystal structure and x-rays, the solid state and problems of molecular structure. 3 s.h.

Professor Sponer
341. Advanced Topics in Quantum Theory.-Quantum theory of radiation and collisions with special reference to nulear physics. Prerequisite: Physics 315-316. 3 s.h.

Professor Nordheim
344. Advanced Nuclear Physics.-The deuteron, nuclear forces, scattering of elementary particles, beta-radiation. Other aspects of nuclear physics susceptible to theoretical interpretation. 3 s.h. (w)

Professor Neivson
351-352. Seminar.-A series of weekly discussions on topics related to the research projects under investigation in the Department. 2 s.h. Staff

353-354. Thesis Seminar.-Students who are properly qualified may carry on research work under the direction of members of the Staff. 6 s.h. Staff

## POLITICAL SCIENCE

professor rankin, chairman- 308 Library; professor wilson, director of graduate studies- 405 library; professors cole, connery and von BECKERATH; ASSOCIATE PROFESSORS HALLOWELL AND VAN WAGENEN
The Department offers instruction designed to afford preparation for teaching, for government service, and for other work related to public affairs.

A student applying for admission to candidacy for an advanced degree with a major in political science is ordinarily expected to have previously completed at least twelve semester hours of course work in political science, including some work in American Government.

Fields of political science in which instruction is at present offered for candidates for the degree of Doctor of Philosophy are the following: American Government and Constitutional Law; Comparative Government; Political Theory; American State and Local Government; International Law; Public Administration. Candidates for the degree of Doctor of Philosophy who propose to major in political science must elect five fields, including Comparative Government and Political Theory; at least one of the five fields must be taken in a department other than the Department of Political Science.

## FOR SENIORS AND GRADUATES

207. American Constitutional Law and Theory.-A study of leading principles of American government, as developed through judicial interpretation of the Constitution. 3 s.h.

Professors Wilson and Rankin
209. State and Local Government in the United States.-A study of the historical development of state and local governments, their present organization, their relation to each other and to the federal government. 3 s.h.

Professor Rankin
211. Political Institutions of the Far East.-A study of the governmental system of Japan, Korea, and China from the Chou Dynasty to the present. 3 s.h.
[Not offered in 1950-51]
212. International Politics of the Far East.-A study of changing power relationships in the Orient since the arrival of the Europeans. 3 s.h.
[Not offered in 1950-51]
221. International Public Organization.-A study of the structure and functioning of the United Nations system and of selected organizations outside that system. 3 s.h.

Associate Professor Van Wagenen
223. Political Thought to the Seventeenth Century.-A survey of political thought from the time of Plato to the close of the sixteenth century. 3 s.h.

Professor Wilson
224. Modern Political Theory.-Political theories of the seventeenth and cighteenth centuries, and of the first half of the nineteenth, with a study of their influence upon modern political institutions. 3 s.h.

Professor Wilson and Associate Professor Hallowell
225. Comparative Government.-A comparative study of modern politicai institutions with particular attention to European constitutional government and politics. 3 s.h.

Professor Cole
226. Comparative Government.-A comparative study of modern political institutions with particular attention to European authoritarian and dictatorial government and politics. 3 s.h.

Professor Cole
227-228. International Law.-Elements of international law, particularly as interpreted and applied by the United States. 6 s.h. Professor Wilson
229. Recent and Contemporary Political Theory.-An analytical study of liberalism, socialism and fascism, with special attention to the political theories of the nineteenth and twentieth centuries. 3 s.h.

Associate Professor Hallowell
230. American Political Institutions.-A study of the formation and development of institutions of the national government in the United States, with historical and analytical treatment. 3 s.h.

Professor Rankin
231. American Political Theory.-An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. 3 s.h.

Associate Professor Hallowell
235. The British Commonwealth.-An analysis of the political relationships between the members of the British Commonwealth and a comparative study of the governments of the British Dominions, with particular reference to Canada. 3 s.h.

Professor Cole
241. National Administration.-The development of the federal administrative structure, its present organization, working concepts and processes in the United States. 3 s.h.

Professor Connery
242. Administrative Management.-The role of the executive in administrative planning, organization, direction and supervision, with some reference to methods of work simplification and management improvement. 3 s.h.

Professor Connery
244. Administrative Law.-The law of the administrative process, including the nature of regulatory authority; the status and liability of public officers, administrative tribunals and judicial review of administrative action. 3 s.h.
[Not offered in 1950-51]
Professor Connery
246. Government Administration and Public Policy.-Through use of the laboratory technique, a consideration of the type of administrative problems that the United States Government encounters in the field of public policy and their possible solution. 3 s.h.

Professor Connery
247. Regulatory Administration.-A survey of the problems involved in the exercise of administrative discretion, including methods of administrative adjudication, judicial control over administrative action, and extra-legal relations. 3 s.h.

Professor Connery
[Not offered in 1950-51]
252. Spanish-American Constitutionalism.-A comparative study of the nature, sources, and use of political authority in the constitutional law of Argentina, Chile, Colombia, and Uruguay. 3 s.h.
271. Sociopolitics and Capitalism.-Labor and labor policies in Western Europe and the United States in the nineteenth and twentieth centuries; the development of the monopoly power and political power of labor in recent decades. 3 s.h.

Professor von Beckerath
291. Municipal Government.-A study of problems relating to the structural system and activities of municipalities in the United States. 3 s.h.

Professor Rankin
292. Municipal Administration.-A study of principles and methods of municipal administration in the United States. 3 s.h. Professor Rankin

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FOR GRADUATES
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310. Seminar in State Government.-Open to students who have completed course 209 or its equivalent. 3 s.h.

Professor Rankin
311. Seminar in Far Eastern Politics.-Open to students who have completed course 211 or its equivalent. 3 s.h.
[Not offered in 1950-51]
321. Seminar in Political Theory.-Open to students who have completed 6 s.h. in Political Science 223, 224, 229, 231 or their equivalents. 3 s.h.

Assoclate Professor Hallowell
325. Seminar in Comparative Government.-Open to students who have completed course 225 and 226 or their equivalents. 3 s.h. Professor Colef
328. Seminar in International Law.-Open to students who have completed course 227-228 or its equivalent. 3 s.h.

Professor Wilson
341. Seminar in Public Administration.-Open to students who have completed course 241 and 242 or their equivalents. 3 s.h. Professor Connery

RELATED COURSES IN OTHER DEPARTMENTS
Economics 215. Economic Systems.-3 s.h.
Professor Hoover
Economics 216. Economic Functions of the State.-3 s.h.
Professor Hoover
Economics 233. State and Local Finance.-3 s.h. Professor Ratchford
Economics 234. Federal Finance.-3 s.h.
Professor Ratchford
Economics 237-238. Statistical Methods.-6 s.h.
Associate Professor Hanna
Economics 265. International Trade and Finance.-3 s.h.
History 215-216. Foreign Policy and Diplomacy of the United States. 6 s.h.

Professor Clyde
[Not offered in 1950-51]
History 217-218. Europe since 1870.-6 s.h. Professor Carroll
History 234. Political and Social Problems in the Hispanic American Republics.-3 s.h.

Professor Lanning
History 261-262. Russia in the Twentieth Century.-6 s.h. Associate Professor Curtiss
Philosophy 208. Political Philosophy.-3 s.h.
Professor Negley
Religion 224. Conceptions of Man in Western Thought.-3 s.h.
Professor Cushman
Religion 394. Christianity and the State. -3 s.h.
Associate Professor Beach
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen

## PSYCHOLOGY

HROFESSOR ADAMS, CHAIRMAN- 201 BIVINS HALL; PROFESSOR ZENER, DIRECTOR OF GRADUATE STUDIES-205 PSYCHOLOGICAL LABORATORY; PROFESSOR RODNICK, UIRECTOR OF CLINICAL TRAINING- 110 BIVINS HALL; PROFESSORS DAI, KUDEK AND LUNDHOLM ; ASSOCIATE PROFESSORS BANHAM AND KOCH; ASSISTANT PROFESSOR COHEN
The aim of the Department is to provide opportunity for advanced study and research in a variety of fields of general experimental and clinical psychology.

Regardless of the field of eventual specialization, a thorough grounding in the facts, methods, and theories of general psychology is required. The graduate program is planned so as to achieve this common background primarily during the first year, with specialization in course work in the second. Normally the language examinations, preliminary examination, and a special examination in statistics would be passed and the doctoral dissertation formulated by the end of the second year. Emphasis is laid upon the completion, under direction of a member of the Staff, of a dissertation demonstrating competence and independence in the successful investigation of an original and significant problem.

Students specializing in clinical psychology will undertake field work in a variety of clinical settings as an integral part of their academic work during the first and second years. In addition, they will normally spend the third year in an appropriate internship, with the fourth year in residence at the University to complete the dissertation.

No limitation is laid down as to the departments in which it is possible to minor. The fields most usually relevant to graduate study in psychology, however, are sociology and anthropology, endocrinology, physiology, neuroanatomy, education, and philosophy.

In addition to the general requirements for admission to the Graduate School, a candidate must have satisfactorily completed fifteen semester hours of course credit in psychology. A deficiency in undergraduate preparation may, in certain cases, be removed by taking courses without graduate credit concurrently with a correspondingly reduced schedule of graduate courses as arranged with the Director of Graduate Studies.

## FOR SENIORS AND GRADUATES

201-202. Proseminar.-An integrated core curriculum in fundamental and general psychology, designed to provide an advanced background in the principles, and the empirical and theoretical methods, of the major fields of psychology. The topics include: scientific methods in psychology, biological foundations of behavior, motivation, learning, perception, behavior development, personality, the social determinants of behavior, and contemporary psychological theories. Required of all first year students. 9 s.h. each semester. Associate Professor Kocif ; Professors Adams, Kuder, Rodnick, and Zener; Associate Professor Banham
203. Dynamic Psychology: Conation and Our Conscious Life.-A systematic presentation of the psychology of adult human achievements, adaptive as well as creative, with emphasis upon the significance for these endeavors of the acts of experiencing. 3 s.h. Professor Lundholm
204. Motivation and Learning.-Social and biological conditions of the operation, modification, and organization of motivational systems. 3 s.h.

Professor Zener and Associate Professor Koch
[Not offered in 1950-51]
206. Social Psychology.-Kinds of membership character; psychology of social movements; propaganda; revolution; nationalism; war. 3 s.h.

Professor Adams
207. Psychology of Memory, Thinking, Perceiving.-A study of thinking, remembering, and perceiving with reference to the basic processes involved and their determining conditions, with emphasis upon organization, meaning, and motivation. 3 s.h.

Professor Zener
[Not offered in 1950-51]
209. Experimental Methods in Human Psychology.-A study of methods for the control, identification, and recording of essential variables in human psychological situations, with consideration of the relation of experimental techniques to problem formulation and psychological theory. Laboratory and lectures. 4 s.h.

Professor Zener
212. Physiological Psychology.-An advanced study of the interrelationships between psychological and physiological processes. Prerequisites: courses in Neuro-anatomy and in Physiology (M204 and M261, or Zoology 324, or their equivalents). 3 s.h.

Professor Zener
215. Developmental Psychology.-The environmental forces conditioning the development of personality structure and the mechanisms contributing to psychological growth; critical periods in character formation from infancy to senescence. 3 s.h.

Professor Adams
221-222. Propracticum.-Lectures, demonstrations and practice in the use of basic procedures, projective and non-projective, employed in clinical psychology; principles of interpretation and reporting of test findings. Laboratory periods will be held in clinical field facilities. 3 s s.h. each semester.

## Associate Professor Banham and Clinical Staff

223. Abnormal Psychology.-A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. 3 s.h.

Professor Lundholm
[Offered in spring semester only]
224. Psychology of Aesthetics. - 3 s.h.

Professor Lundholm
226. Psychology: Historical and Theoretical.-3 s.h. Professor Zener [Not offered in 1950-51]
236. Theoretical Psychology.-This course is devoted to the analysis of techniques of theory construction in psychology. The discussion of these methodological issues is co-ordinated with the analysis of concrete formulations in contemporary psychological theory. 3 s.h.

Associate Professor Koch
265. Fundamental Statistical Procedures in Psychology.-A course in the application of the more common statistical principles and techniques used in psychological research. Measures of central tendency, variability, and correlation, and the elements of sampling theory are studied with illustrative data from various problem areas in psychology. 3 s.h. Professor Kuder
266. Advanced Statistics of Psychological Investigation.-A study of various more advanced statistical principles and procedures employed in psychological research. The course includes the topics of multiple and partial correlation, analysis of variance as employed in controlled experimentation, measures of correlation other than product-moment correlation, reliability and validity of measures, and fundamental concepts of factor analysis. Prerequisite: Psychology 265 or its equivalent. 3 s.h.

Professor Kuder
FOR GRADUATES
302. Seminar.-3 s.h.

Professor Lundholim
303-304. Research.-2 or 3 s.h.
Professors Adams, Dai, Kuder, Lundholm, Rodnick, and Zener; Associate Professors Banham and Koch
305. Psychopathology.-An examination of behavior disorders, with particular emphasis on explanatory concepts and the evidence from research in this field. 3 s.h.

Professor Rodnick
306. Seminar in Child Psychology (Clinical).-2 or 3 s.h.

Professor Adams
309. Theory of Learning.-3 s.h.

Professor Adams
310. Seminar: Selected Problems in the Dynamics of Behavior.-3 s.h. Professor Zener
320. Seminar in the Theory of Mental Tests.-3 s.h. Professor Kuder
331. Interviewing Methods of Case Study.-Lectures, conferences and practice in interviewing, the technique of anamnesis; types of interview for different purposes; directive and non-directive methods; summarizing and reporting case histories; use of interviewing techniques in the diagnosis and treatment of personality problems. 3 s.h. Associate Professor Banham
[Not offered in 1950-51]
335. Clinical Psychology Practicum.-Seminar discussion and supervised field experience in the application of psychological procedures and principles to clinical cases in a variety of institutional settings. Prerequisite: Psychology 221 and 222. 3 to 6 s.h.

Assistant Professor Cohen; Professor Rodnick; Associate Professor Banham
336. Psychological Diagnosis.-Seminar discussions and supervised field experience with concentration on special diagnostic problems. Prerequisite: Psychology 335. 3 to 6 s.h.

Assistant Professor Cohen; Professor Rodnick;
Associate Professor Banham
341. Society, Culture and Behavior Disorders.-A eritical survey of eurrent theories of the structure and genesis of psyehoneurosis, with partieular stress on psychoneurotie disturbances as problems of the self in relation to society and culture. 3 s.h. Professor Dai
342. Principles of Psychotherapy.-A eritieal study of the current methods of treating behavior disorders, such as brief psyehoanalytic therapy, non-directive methods and group procedures. Stress is laid on integration of the best workable procedures into a set of psyehotherapeutie principles in a socio-psychologieal frame of reference as discussed in Psyehology 341 which is a prerequisite. Case material will be used for purposes of illustration. 3 s.h. Professor Dai
371. Pre-school Behavior Problems.-The diagnosis and treatment of behavior problems, to include: types and selection of problems for study, analysis and statement of the problem, systematie inquiry into causes, planning and allocating treatment programs, follow-up inquiry, progressive adaptation of treatment, preventive measures. Prerequisites: at least one course in child development, in mental measurement, and in abnormal psychology. $3 \mathrm{~s} . \mathrm{h}$.
[Offered in spring semester only]
Associate Professor Banham
RELATED COURSES IN OTHER DEPARTMENTS
Education 208A. Mental Tests and Applications. 3 s.h.
Associate Professor Easley
Education 208B. Practicum.-2 s.h. Associate Professor Easley
Education 209. Statistical Methods Applied to Education.-3 s.h.
Associate Professor Stumpf
Education 217. The Psychological Principles of Education.-3 s.h.
Associate Professor Easley
Education 227. The Psychology of Learning: Problems.-3 s.h.
Associate Professor Easley
Education 228. The Psychology of Learning: Theoretical and Experi-mental.-3 s.h. Associate Professor Easley

Education 258. Educational Measurements.-First semester. 3 s.h.
[Not offered in 1950-51]
Education 318. Educational Implications of Genetic Psychology.-3 s.h.
Philosophy 203. Contemporary Ethical Theories.-3 s.h.
Professor Negley
Philosophy 208. Political Philosophy.-3 s.h. Professor Negley
Philosophy 223. Contemporary Philosophy.-3 s.h. Professor Patterson
Philosophy 225. Locke, Berkeley, and Hume.-3 s.h.
Assistant Professor Welsh
Philosophy 231. Philosophy of Science.-3 s.h.
Philosophy 242. Scientific Methodology.-3 s.h.
Philosophy 331-332a. Logic.-3 s.h.
Professor Negley
Sociology 211. Peoples of the World.-3 s.h.
Associate Professor LaBarre
Sociology 212. Primitive Religion.-3 s.h.
Associate Professor LaBarre
Professor Thompson
Sociology 238. Race and Culture.-3 s.h.
[Offered in Summer Session, 1950. Not offered in 1950-51.]
Sociology 243. Social Attitudes and Collective Behavior. -3 s.h.

Sociology 246. Public Opinion and Propaganda.-3 s.h.
Associate Professor Schettler
Sociology 249. Child Welfare.-3 s.h.
Professor Jensen
[Offered in Summer Session, 1950]
Sociology 271. Social Pathology.-3 s.h. Professor Jensen
Sociology 276. Criminology.—3 s.h. Professor Jensen
Sociology 330. Seminar in Anthropology.-1 to 3 s.h. each semester.
Associate Professor LaBarre
Sociology 380. Seminar in Applied Sociology.-1 to 3 s.h. each semester.
Professor Jensen
Zoology 229. Endocrinology.-4 s.h.
Zoology 324. Advanced Physiology.-4 s.h. Associnte Professor Wilbur
Zoology 341. Historical Zoology.—2 s.h.
Professor Hargitt
Staff
Zoology 351-352. Zoological Journal Club.-2 s.h.
Staff
Zoology 355-356. Seminar.-2 s.h.
Physiology 261-262. Human Physiology.-8 s.h.
Anatomy 204. Neuroanatomical Basis of Behavior.-3 s.h.
Dr. Hetherington

## RELIGION

PROFESSOR SMITH, DIRECTOR OF GRADUATE STUDIES-302 DIVINITY SCHODL; PROFESSORS CLARK, CUSHMAN, PETRY, SPENCE, AND STINESPRING; ASSOCIATE PROFESSOR BEACH; ASSISTANT PROFESSOR YOUNG; AND DR. BROWNLEE
Graduate study in religion leading to the degrees of Master of Arts and Doctor of Philosophy may be pursued in three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. A student majoring in one of these fields will be expected to take such courses in one or both of the other fields as may be necessary to give an adequate understanding of his own field of specialization.

Students pursuing work in the field of religion will be expected to take such other courses in cognate fields as will aid in the understanding of their field of specialization. Special attention is called to the Division of Ancient Languages and Literature for those working in Field I; to the Department of History for those working in Field II; and to the Departments of Philosophy, Political Science, and Sociology for those working in Field III.

## FIELD I. BIBLICAL STUDIES

201-202. First Hebrew.-The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h.

Professor Stinespring
205-206. Arabic.-Introduction to the classical language and literature with some attention to the modern idiom. Hours to be arranged. 6 s.h
[Not offered in 1950-51]
Professor Stinespring
207-208. Second Hebrew.-Samuel or Kings the first semester and Isaiah the second. 6 s.h.

Dr. Brownlee
217. The New Testament in Greek.-Extensive reading of the Greek text of the New Testament, with special emphasis upon its interpretation. 3 s.h.

Professor Clark
218. Galatians and I Corinthians.-A detailed study of two of Paul's major epistles, based on the Greek text. 3 s.h. Professor Clark
220. I Peter and the Gospel of John.-A detailed study of two of the nonPauline writings of the New Testament, based on the Greek text. 3 s.h.

Professor Clark
301. The Religious Thought of Post-Exilic Judaism.-A study of the development of religious ideas in Post-Exilic Judaism. 3 s.h.

Assistant Professor Young
304. Aramaic.-A study of the Aramaic portions of the Old Testament, and selected passages from the Targums, Midrashes, and Talmuds. Hours to be arranged. 3 s.h.

Professor Stinespring
305. Third Hebrew.-A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. Hours to be arranged. 3 s.h.
[Not offered in 1950-51]
Professor Stinespring
307. Syriac.-A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramic prerequisite. 3 s.h.

Professor Stinespring
[Not offered in 1950-51]
309. History of the Ancient Near East.-A specialized study of the civilizations of Egypt, Palestine, Syria, and Mesopotamia in light of Biblical archaeology. 3 s.h.

Professor Stinespring
310. Old Testament Prophecy.-The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. 3 s.h.

Professor Stinespring
311. The Life and Teachings of Jesus.-Prerequisite: New Testament 213-214. 3 s.h.

Professor Clark
312. New Testament Theology.-An examination of the problems integral to the systematic interpretation of New Testament theology, with a critical evaluation of representative investigations in this field. 3 s.h.

Assistant Professor Young
313. The Apostolic Fathers.-A study of the Christian development from Clement of Rome to Polycarp, with readings of the Greek text. 3 s.h.

Professor Clark
314. Patristic Thought.-A study of the development of early Christian doctrine to the period of Augustine. Special attention will be given to the principal theological controversies. Prerequisite: New Testament 213-214. 3 s.h.

Assistant Professor Young
316. Hellenistic Religions at the Beginning of the Christian Era.-A study of the Gentile religions in the Roman Empire, at the beginning of the Christian era. 3 s.h.

Professor Clark
317. The Synoptic Gospels.-A detailed study of their characteristics and contents, based upon the Greek text, with attention to their respective sources and to the development of synoptic criticism. Prerequisite: a basic "Introduction" to the New Testament. 3 s.h.

Professor Clark
318. Text of New Testament.-A study of the materials for the reconstruction of the text, the principles of textual criticism, and the history of the text. Practical exercises in the use of manuscripts and facsimiles will be given. 3 s.h.

Professor Clark
RELATED COURSES IN OTHER DEPARTMENTS
Greek 257. Social and Cultural History of the Hellenistic World from Alexander to Augustus. -3 s.h.

Professor Rogers

Latin 258. Social and Cultural History of the Graeco-Roman World.3 s.h.

Professor Rogers
Aesthetics, Art, and Music 215. Religious Art of the Ancient Near East.3 s.h. Assistant Professor Markman

Aesthetics, Art, and Music 216. Religious Art of the Classical World. 3 s.h.

Assistant Professor Markman
FIELD II. STUDIES IN CHURCH HISTORY
330. The Church in Europe since 1800.-Emphasis is placed on the relation of the Church to the social, economic, and political life of Modern Europe. 3 s.h.

Professor Petky
331. The Social Message of the Early and Medieval Church.-A study of the social teachings and contributions of the Christian Church prior to the Protestant Reformation. 3 s.h.

Professor Petry
332. The Medieval Church.-Outstanding characteristics of the Medieval Church, emphasizing theory, polity, institutions, sacraments, and worship. 3 s.h.
[Not offered in 1950-51] Professor Petry
334. Church Reformers and Christian Unity.-The work of such reformers as Marsilius of Padua, Willian of Ockhan, John Gerson, Pierre d'Ailly, and Nicholas of Cusa in relation to ecclesiastical schism and the search for Christian unity through representative councils. 3 s.h. Professok Petky
[Not offered in 1950-51]
336. History of Christian Renunciation in the Middle Ages.-A study of the renunciatory ideal and spiritual practices with special reference to Benedictines, Franciscans, Lowland Mystics, and leading seculars. 3 s.h.

Professor Petry
365. History of Religious Education in Modern Times.-A critical study of the historical movements in religious education since the Reformation with special consideration of the American development. 3 s.h. Professor Spence

## RELATED COURSES IN OTHER DEPARTMENTS

> History 221-222. The Age of the Renaissance.- 6 s.h.
> Associate Professor Nelson

History 225-226. The Age of the Reformation.-6 s.h.
Associate Professor Nelson

## FIELD III. STUDIES IN CHRISTIAN THOUGHT

224. Conceptions of Man in Western Thought.-An analysis and interpretation of important types of philosophical and theological theory concerning man with a view to critical evaluation and construction. Prerequisite: 3 s.h. in Christian Doctrine or $6 \mathrm{~s} . \mathrm{h}$. in Philosophy. 3 s.h.

Professor Cushman
[Not offered in 1950-51]
321. Platonism and Christianity.-An analysis of Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. Prerequisite: 6 s.h. in philosophy of its equivalent. 3 s.h.

Professor Cushman
322. Theology and Philosophy in the Nineteenth Century.-A study of Protestant thought from Schleiermacher to Troeltsch together with representative theologians of Britain, with special attention to the reciprocal relations between theology and metaphysics. 3 s.h.

Professor Cushman
[Not offered in 1950-51]
325. Philosophical Theology I.-Analysis and critique of dominant types of contemporary world-views for the formulation of the problem of philosophical theology. Main problems in the history of philosophical theology. 3 s.h.
326. Philosophical Theology II.-Historical and constructive approach to the problem of faith and reason, God and evil. 3 s.h. Professor Cushman
328. Seminar in 20th Century Continental and British Theology.-Critical examination of the thought of Barth, Brunner, Berdyaev, Maritan, F. R. Tennant, and William Temple. 3 s.h. Professor Cushman
329. Seminar in Historical Theology.-Selected problems in the history of Christian thought, with special reference to the relation between theology and philosophy. 2 s.h.
368. Theories of Religious Education.-A critical investigation of current theories of Religious Education. 3 s.h.

Professor Spence
391-392. Historical Types of Christian Ethics.-A critical study of representative documents of Christian ethical theory. 6 s.h.

Associate Professor Beacil
394. Christianity and the State.-The relation of the Christian theory of the State to political problems, with special consideration of the religious assumptions underlying democratic theory and practice. 3 s.h.

Associate Professor Beach
395. Religious Thought in Colonial America.-Consideration of the principal types of Protestant thought in colonial culture. 3 s.h.

Professor Smith
396. American Religious Thought in the Nineteenth Century.-Comparative exposition of Orthodoxy and Liberalism. 3 s.h.

Professor Smith
397. Current American Theology.-Critical appraisal of conflicting tendencies in American theological thought. 3 s.h. Professor Smith
398. Modern American Christology.-An analysis of the historical development of modern American conceptions of the person and work of Christ. 3 s.h.

Professor Smith
495. Seminar: Jonathan Edwards and John Wesley.-A comparative study of the major theological works of Edwards and Wesley. 2 s.h.

Professor Smith
496. Seminar: William James and John Dewey.- $\Lambda$ critical study of the philosophical and religious thought of James and Dewey. 2 s.h.

Professor Smith

## related courses in other departments

Political Science 229. Recent and Contemporary Political Theory.-3 s.h. Associate Professor Hallowell
Political Science 231. American Political Theory.-3 s.h.
Associate Professor Hallowell

## OTHER COURSES

Certain other courses listed in this bulletin and the Bulletin of the Diamity School may be taken for graduate credit provided that at the time of registration they are approved by the Director of Graduate Studies in Religion and by the Dean of the Graduate School.

## ROMANCE LANGUAGES

## PROFESSOR JORDAN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES-214 CARR; PROFESSORS COWPER AND WALTON ; ASSOCIATE PROFESSORS <br> CASTELLANO AND DAVIS

To be eligible for graduate study in this Department, the student should normally have credit for four years of college work in the chosen language, or eighteen hours beyond the conventional two units offered at entrance to
college. In addition to this minimum requirement, one semester of composition and grammar review is highly desirable.

It is recommended that candidates for the Master's degree take a second Romance Language for the minor subject.

A candidate for the Ph.D. degree should be equipped to follow graduate courses in a sccond Romance Language. Some training in Romance Linguistics will be required for this degree, the amount to be determined by the Department upon consideration of the student's preparation in the field.

Graduate students will be required to maintain oral practice in their major language through non-credit exercises that will be provided.

## FRENCH

FOR SENIORS AND GRADUATES
213. French Classicism.-Its initial phase. Readings from Malherbe. Corneille, Molière, Racine, Pascal, Boileau, La Fontaine, La Rochefoucauld, Madame de Sévigné, La Bruyère, and others. 3 s.h. Professor Walton
214. French Classicism.-Its final phase. Readings from Fontenelle, Saint-Simon, Abbé Prévost, Marivaux, Lesage, Montesquieu, Voltaire, and others. Main emphasis on Voltaire. 3 s.h.

Professor Walton
215-216. The Modern French Novel.-A survey of the novel form from the seventeenth to the twentieth century, with particular attention to the analysis of fundamental literary trends: classicism, rationalism, romanticism, and realism. 6 s.h.

Professor Jordan
219. Old French.-An introduction to the Old French language and literature. The Chanson de Roland and Aucassin ct Nicolette. 3 s.h.

Professor Cowper
220. Old French.-Types of Old French literature. The lais of Marie de France, Chrétien de Troyes and the Arthurian Romance, the roman d'aventure, the Roman dc la rose, and the Roman de Renard. Readings and lectures. 3 s.h. Professor Cowper
227. French Poetry since Théophile Gautier.-Readings from the principal figures of the Parnassian and Symbolist movements, including Baudelaire, Leconte de Lisle, Heredia, Verlaine, Rimbaud, Mallarmé, and Régnier. 3 s.h. Professor Walton
232. Rousseau and the Beginnings of Romanticism.-A study of the sources of the French Romantic Movement in the works of J.-J. Rousseau and his successors, Bernardin de Saint-Pierre, Senancour, Chateaubriand, and others. 3 s.h.

Professor Cowper
238. Anatole France.-Analysis of the principal phases of his work and its relation to the French tradition. Reading of his poetry, Lc Crime de Sylzestre Bontard. Thais, Le Jardin d'Epicurc, Les Dicur ont soif, Le Ly's Rougc. L'Ile des Pingouins, parts of La Vic Littcrairc. Optional individual projects. 3 s.h.

Professor Walton

## FOR GRADUATES

317. History of the French Language.-A study of the development of the French language from Vulgar Latin, through Old and Middle French to Modern French, with an introduction to the phonology and morphology of the language. 3 s.h.

Professor Cowper
323-324. Realism and Naturalism.-Literary doctrines and practices in the generation of $1850-90$, with particular reference to the background of scientific thinking. 6 s.h.

Professor Jordan

325-326. French Literature in the Sixteenth Century.-Main attention is given to Rabelais, Montaigne, Marot, Ronsard, Du Bellay. Principal movements treated are : Humanism, Hellenism, Platonism, Petrarchism, the Pléiade. 6 s.h.

Professor Walton
331. Diderot and the Encyclopédie.-A study of the development of modern ideas and institutions in the group who surrounded Diderot in editing the Encyclopédie. 3 s.h.

Professor Cowper
333-334. Contemporary French Literature.-The twentieth century is examined mainly with reference to the originality of its contribution in the domain of ideas and literary forms. Only the leading figures are read extensively; Rolland, Gide, Proust, Duhamel, Valéry. 6 s.h.

Professor Jordan
350. Nineteenth-Century French Criticism.-A survey of critical doctrines and practices from Sainte-Beuve to the end of the century, including Brunetière, Faguet, Lemaitre, France, Doumic and others. 3 s.h. Professor Jordan
Of the courses listed above, the following will be offered during the first semester of the year 1950-51 : three courses from the group 213, 215, 219, 227, 323, 325, 333. During the second semester : three courses from the group 214, 216, 220, 232, 238, 324, 326, 334, 350.

## SPANISH

## FOR SENIORS AND GRADUATES

257-258. Old Spanish Language and Literature.-First semester: The historical development of the language along with illustrative readings. Second semester: The literature of the Middle Ages and Early Renaissance. 6 s.h. Associate Professor Davis
260. Advanced Composition and Syntax.-Study of fundamental difficulties in the language; practice in writing idiomatic Spanish; exercises in free composition. For students who have a satisfactory command of Spanish grammar and fair conversational ability. Prerequisite: Spanish 173-174 or permission. 3 s.h. (E)

Associate Professor Castellano
261-262. Modern Spanish Novel.-The evolution of the novel from the costumbrista writers through the generation of 1898.6 s.h. (E)

> Associate Professor Davis
264. Modern and Contemporary Spanish Theater.-A brief review of the modern and contemporary Spanish Theater from the period of Romanticism. Lectures, reading and discussion of the most representative works of Benavente, Martinez Sierra, los hermanos Quintero, etc. 3 s.h.

Associate Professor Castellano
265. Golden Age Literature: Cervantes.-The life and thought of Cervantes, with special emphasis on his Quijote. 3 s.h.

Assoclate Professor Castellano
266. Golden Age Literature: The Drama.-Study of the chief Spanish dramatists of the seventeenth century with readings of representative plays of this period. 3 s.h.

Associate Professor Castellano

## SOCIOLOGY AND ANTHROPOLOGY

professor Jensen, chairman- 215 E social science building; professor hart, director of graduate studies- 215 D social science building; professor THOMPSON: ASSOCIATE PROFESSORS LABARRE AND SCHETTLER

## ANTHROPOLOGY

211. Peoples of the World.-A comparative study of cultures the world over, including marriage, religion, economics, social and political organization, art and music, with emphasis upon preliterate peoples. Prerequisite: course 91-92, 101, 111 or 112 . 3 s.h.

Associate Professor LaBarre
212. Primitive Religion.-The ethnography, the social functions and the socio-psychological meanings of religion in primitive societies. Prerequisite: course 91-92, 101, 111 or 112. 3 s.h. Associate Professor LaBarre
213. Culture and Personality.-The sociology and social psychology of human personality, its origins in the primary group, its nature and varicties, and its integrations into secondary group institutions. 3 s.h.

Associate Professor LaBarre
(Admission only by consultation with the instructor.)
214. Society and Personality.-The influence of culture patterns and social institutions upon character structure, socialization of the individual, and the dynamics of human personality. Comparative anthropological materials will be drawn upon. Prerequisite: course 213. 3 s.h. Associate Professor LaBarre
330. Seminar in Anthropology.-A seminar for advaneed students who wish to pursuc individual studies in racial or cultural anthropology. 1 to 3 s.h. cach semester.

Associate Professor LaBarre

## COMMUNITY, RACE AND CULTURE

(Either 91-92, 101, 111 or 112 prerequisite for all courses.)
233. Rural Sociology.-The sociology of the land; peasant and folk socicties and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. $3 \mathrm{~s} . \mathrm{h}$. Second semester

Professor Thompson
[Offered in Summer Session, 1950. Not offcred in 1950-51.]
235. Urban Sociology.-A study of the eity and civilization, the newspaper, the social survey, the slum and housing, neighborhoods and natural areas, urban institutions, urban problems, and city plaming. 3 s.h.

Professor Thompson
237. Community and Society.-This course sceks to provide a frame of reference for the analysis and ordering of facts pertaining to the diverse cultures of the world, The State, the world community, the Great Society, news, mass behavior, social problems, races and classes. 3 s.h.

Professor Thompson
238. Race and Culture.-A study of the nature of race and the relationships and problems of race. 3 s.h.

Professor Thompson
[Offered in Summer Session, 1950. Not offered in 1950-51.]
340. Seminar.-Methodological problems involved in the study of race relations, urban and rural life, the South and society generally. 3 s.h. first semester.

Professor Thompson

## COLLECTIVE BEHAVIOR

243. Social Attitudes and Collective Behavior.-Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns ; expression of social attitudes in social, political and industrial groups ; social unrest and the hehavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. Prerequisite: course 91-92, 101, or 111 or 112. 3 s.h.

Associate Professor Schettler
246. Public Opinion and Propaganda.-Nature and development of public opinion; relation to attitudes, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. Prerequisite: course $91-92,101$, or 111 or 112 . 3 s.h.

Associate Professor Schettler
249. Child Welfare.-A study in heredity and environment as factors in personality development: infant conservation; welfare responsibilities of the school, emphasizing the physical and mental well-being of the child, play, and
compulsory and industrial education ; child labor, diagnosis and treatment of delinquency; care of the dependent and neglected child; child-caring agencies, public and private; and a community program of child welfare. Prerequisite: course $91-92,101,111$ or 112. 3 s.h.

Professor Jensen
[Offered in Summer Session, 1950]
250. Marriage and the Family.-An analysis of contemporary marriage and family experience with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. Prerequisite: course $91-92,101,111$ or 112 . 3 s.h.

Professor Hart

## SOCIAL ORGANIZATION AND DISORGANIZATION

271. Social Pathology.-A study of the causes, extent, significance, and constructive treatment of the principal forms of pathology in modern society ; natural disasters, poverty, physical defectiveness, malnutrition, mental deficiency, mental disease, undirected leisure activities and unstandardized commercial recreation, alcoholism, prostitution, vagrancy, and delinquency. Prerequisite: course $91-92,101,111$ or 112. 3 s.h.

Professor Jensen
273. Special Problems in Social Pathology.-Research projects in social and personal disorganization, limited to advanced students with the approval of the instructor. 1 to 3 s.h. each semester.

Professor Jensen
276. Criminology.-A study of the original tendencies of man and the problem of socializing these tendencies; the relation of plysical and mental defectiveness and untoward influence in the home and neighborhood to crime; the development of criminological theory and procedure, emphasizing penal and reform methods, and especially modern methods of social treatment and prevention of crime. Prerequisite: course $91-92,101,111$ or 112.3 s.h.

Professor Jensen
377. Seminar in Medical Sociology.-The basic principles of the various medical specialties as applied to the problems of marriage and the family. Open only to graduate students in sociology, with the consent of the instructor and of the Director of Graduate Studies. Given by the Staff of the Medical School under the direction of Dr. Bayard Carter, M.D. 2 s.h.
[Not offered in 1950-51]
378. Seminar in Family Law.-A seminar approach to the efforts of the social sciences, including law, to deal with the intricate and perplexing problems of the modern family. Readings are assigned in legal and sociological material. 2 s.h.
[Not offered in 1950-51]
380. Seminar in Applied Sociology.-Special research problems in social pathology, child weliare, criminology, and related topics. 1 to 3 s.h. each semester.

Professor Jensen

## SOCIAL THEORY

286. Social Ethics.-A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. Prerequisite: course 91-92, 101, or 111 or 112. 3 s.h.

Professor Hart
288. Contemporary Problems in Cultural Lag.-An exploration of such sociological problems as social evolution, cultural lag, conflict, accommodation, leadership, and social reform, in relation to the crisis of civilization precipitated by the development of the atomic bomb and by kindred discoveries and inventions. Prerequisite : course 91-92, 101, or 111 or 112. 3 s.h. Professor Hart
381. Principles of Sociology.-A critical study of sociological theory. The sociological theories of recent writers will be critically examined with a view to laying the foundation for a constructive theory of the social life in modern biology and psychology. Discussions and papers by the class. 3 s.h.

Professor Jensen
382. History of Sociological Theory.-Lectures on the development of social thought from Aristotle to the present; the social philosophies of Plato, Aristotle, St. Augustine, Thomas Aquinas, Machiavelli, Bodin, Hobbes, Locke, V'ico, Montesquieu, Rousseau, Condorcet, and the sociological systems of Conte, Spencer, Schảeffle, Lillienfeldt, Gumplowicz, Ratzenhofer, and Ward will, among others, be considered. A large amount of assigned reading will be required in this course. The student is advised to correlate this course with related courses in economics, history, political science, and philosophy. 3 s.h.

Professor Jensen

## METHODS OF SOCIAL RESEARCH

291. Statistical Methods in Sociology.-Deals with the processes of definition, classification, measurement, tabulation, association, correlation, comparison of averages and of percentages, causation, prediction, preparation and interpretation of charts and graphs, as applied to and illustrated by sociological data. Prerequisite : course $91-92,101$, or 111 or 112.3 s.h. Professor Hart

293-294. Special Problems in Social Statistics.-Applications of statistical techniques to specific research topics; limited to advanced students with permission of the instructor. 1 to $3 \mathrm{~s} . \mathrm{h}$. each semester.

Professor Hart
391. Seminar in Social Statistics.-Special research problems in social statistics, social ethics, the family or related topics. 1 to 3 s.h. each semester.

Professor Hart
396. Methods of Social Research.-A critical appraisal of the various methods of research and investigation that can be applied to the study of sociological phenomena. 3 s.h.

Professor Jensen
393. Operational Sociology.-A seminar for adyanced students, presenting an operational philosophy of social science as a basis for research in sociology. Examples of operational procedure will be analyzed. Assigned projects will embody applications of the operational method. Prerequisite: one of the following: Sociology 291 or Economics 237-238, or Education 209, or Mathematics 124, or some other acceptable course in statistics. 3 s.h. Professor Hart
399. Departmental Seminar.-Research work upon special problems in sociology and anthropology. 1 s.h. each semester.

## Professors Jensen, Hart, and Thompson; Assoclate

Professors Schettler and LaBarre

## RELATED COURSES IN OTHER DEPARTMENTS

Economics 215. Economic Systems.-3 s.h. Professor Hoover
Economics 216. Economic Functions of the State.-3 s.h.
Professor Hoover
Economics 217. Population Problems and Resources.-3 s.h.
Professor Spengler
Philosophy 205. Philosophy of History.-3 s.h. Professor Widgery
Political Science 223. Political Thought to the Seventeenth Century.3 s.h.

Professor Wilson
Political Science 224. Modern Political Theory.-3 s.h.
Professor Wilson and Associate Professor Hallowell
Psychology 206. Social Psychology.-3 s.h.
Professor Adams

## ZOOLOGY

> 1'ROFESSOR GRAY, CHAIRMAN-218 BIOLOGY BUILDING; ASSOCIATE PROFESSOR WILBUR, DIRECTOR OF GRADUATE STUDIES-328 BIOLOGY BUILDING; PROFESSOR EMERITUS PEARSE; PROFESSOR HARGITT; ASSOCIATE PROFESSORS BOOKHOUT, HUNTER, AND WHARTON; ASSISTANT PROFESSORS HORN AND JOHNSON

For admission to candidacy for the Master's degree the applicant should have completed an undergraduate major in zoology or its equivalent. (Courses in general science and botany cannot be counted as a part of the zoology major.) This normally amounts to about twenty-four semester hours of course work, which should be distributed among the various fields of zoology and must include comparative anatomy of vertebrates or vertebrate zoology, physiology, and embryology. The major work must have been passed with good grades. At least one year of chemistry is required, and a year of physics is recommended. Work for the degree will require eighteen hours in advanced courses in zoology, six hours in a minor department, and a thesis.

For admission to candidacy for the Ph.D. degree it is expected that the undergraduate major in zoology will amount to about thirty-two hours which have been passed with good grades. Comparative anatomy of vertebrates or vertebrate zoology, physiology, and embryology must be included in the undergraduate major. At least two years of chemistry and one year of botany are required and one year of physics is recommended; for certain fields organic chemistry is desirable. Toward the end of the first year of residence a committee will be appointed for each candidate, which will review his preparation and set specific requirements to be met. This program will include one or more graduate courses in each of several fields of zoology; broad knowledge of science in general and of biology in particular, attained by wide reading; required major and minor courses, and research; and a satisfactory dissertation which is the result of original work. The Department requires that a first draft of the dissertation shall be completed by March 15 of the year in which the degree is to be conferred. At least one year before the degree is to be conferred each candidate must pass an examination on the whole field of zoology and the minor.

## FOR SENIORS AND GRADUATES

202. Helminthology.-Classification, morphology and host relations of parasitic worms. Lectures, readings, reports and laboratory work. Prerequisite: Zoology 161. 4 s.h. Associate Professor Hunter
203. Advanced Parasitology.-Lectures, conferences, readings, and laboratory work dealing with practical and theoretical matters relating to animal parasites. Offered in alternate years. Prerequisite: Zoology 161. 4 s.h.

Assoclate Professor Wharton
222. Entomology.-Anatomy, physiology, embryology, and classification of insects. Prerequisite: one year of zoology. 4 s.h. Professor Gray
224. Vertebrate Zoology.-A study of the life histories, adaptations, ecology, and classification of vertebrate animals. Prerequisite: Zoology 53. 4 s.h.

Professor Gray
229. Endocrinology.-The structure, physiology, and embryology of the endocrine glands. Lectures, reading assignments, reports, and laboratory work. Prerequisites: Zoology 53, 92, and 171. 4 s.h.
238. Systematic Zoology.-The fundamental theory and practice involved in the collection, identification and classification of animals. Prerequisites: Zoology 1 and 2. 4 s.h.

Associate Professor Wharton
253. Advanced Vertebrate Morphology.-Lectures, reports and reading assignments in the comparative morphology of the vertebrates, with particular
emphasis on theories concerning the interrelationships of vertebrates, and the origin of certain vertebrate structures. Advanced laboratory study in selected groups of vertebrates. Prerequisites: Zoology 53, 92. 4 s.h.

Assistant Professor Horn
271. General Physiology.-The physiological processes of living matter approached through studies of cells. Prerequisites: two years of biology and at least one year of chemistry. 4 s.h. (w) Associate Professor Wilbur
274. Invertebrate Zoology.-A study of structure, functions, and habits of invertebrate animals under normal and experimental conditions. Field trips will be made to study, collect, and classify animals in their natural habitats. Offered in alternate years. Prerequisites: Zoology 1 and 2. 4 s.h.

Associate Professor Bookhout
276. Protozoology.-The morphology, physiology, taxonomy, and culture of protozoa. Offered in alternate years. Prerequisites: Zoology 1 and 2. 4 s.h.

Associate Professor Bookhout
278. Invertebrate Embryology.-Lectures, readings and laboratory work dealing with culture, development and life history of invertebrates. Prerequisite: Zoology 92. 4 s.h. Associate Professor Book hout

## for graduates

303. Ecology.-Relation of animals to environment. Lectures, readings, reports, conferences; laboratory and field work. 4 s.h. Professor Gray
304. Advanced Ecology.-Lectures, conferences, field work, and methods. Offered in alternate years. Prerequisite: Zoology 303. 4 s.h.
305. Foundations of Zoology.-Lectures, readings, and discussions on the background and training essential for a professional zoologist. Offered in alternate years. 2 s.h.
306. Advanced Physiology.-Recent advances in Physiology. Lectures, conferences and laboratory work. Prerequisite: Zoology 271. 4 s.h.

Associate Professor Wilhur
328. Experimental Embryology.-Lectures, readings, reports and laboratory work. Offered in alternate years. Prerequisites: Zoology 53, 92, 156, 271, or equivalents. 4 s.h. Assistant Professor Johnson
341. Historical Zoology.-Readings and discussions. A critical study of the developments of modern biological concepts and theories, their past and present significance. Offered in alternate years. 2 s.h. Professor Hargitt
343. Cytology.-The structure of the cell. Lectures, readings, reports, and laboratory work. Offered in alternate years. Prerequisites: Zoology 53, 92,156 , or equivalent. 4 s.h.

Professor Hargitt
351-352. Zoological Journal Club.-A weekly meeting of graduate students and Faculty to hear reports and to discuss biological facts, theories, and problems. One hour a week throughout the year. Required of all graduate students who major in zoology. 2 s.h.

Staff
353-354. Research.-Students who have had proper training may carry on research under direction of members of the Staff in the following fields. Hours and credits to be arranged.
(a) Embryology.

Assistant Professor Johnson
Associate Professor Wilbur
Professor Hargitt
(c) Histology, Cytology.
(d) Invertebrate Zoology, Histology, Cytology.

Associate Professor Bookhout
(e) Ecology.

Professor Gray
(f) Entomology, Vertebrate Zoology. Professor Gray
(g) Vertebrate Morphology and Morphogenesis.

Assistant Professor Horn
(i) Parasitology.
(i) Parasitology.

Associnte Professor Hunter

355-356. Seminar.-Special seminar courses in particular fields are given by various members of the Staff when the number of students makes then desirable. These will be in the fields indicated under courses 353-354 above. 2 s.h.

## COURSES IN THE MEDICAL SCHOOL OPEN TO GRADUATE STUDENTS

FROFESSORS BEARD, F. BERNHEIM, CONANT, EADIE, HALL, HETHERIN゙GTON, MARKEE, NEURATH, AND D. T. SMITH; ASSOCIATE PROFESSORS EVERETT, HANDLER, MCCREA, PEELE, SAWIER, AND TAYLOR; ASSISTANT PROFESSORS M. L. C. BERNHEIM, DUKE, SCHWERT, AND RUNDLES

The facilities of the departments listed below are available to qualificed str1dents for independent or supervised research and investigations whether working for advanced degrees or otherwise.

Graduate students desiring to pursue a major or a minor in any of the departments listed below or to be admitted to any of the courses listed below should consult or write to the Director of Graduate Studies of the Department concerned: Anatomy, Dr. J. E. Markee; Microbiology, including Parasitology, Dr. D. T. Smith; Biochemistry and Nutrition, Dr. H. Neurath; Physiology and Pharmacology, Dr. Frank G. Hall. Because of special schedules in the Medical School, graduate students are advised to write the Heads of the Dcpartment for the exact dates of the different courses.

## ANATOMY

Completion of training equivalent to that required of an undergraduate majoring in biology is prerequisite for these courses in human anatomy.

M201. Gross Human Anatomy.-A course especially designed for gradıate students, comprising a complete dissection of the cadaver. The laboratory work is supplemented by conferences which place emphasis on the biological aspects of the subject. Oct.-Feb. Hours and credits (maximum 8 s.h.) by arrangement. Prerequisite: adequate training in comparative anatomy and embryology. Dr. Markee and Staff

M202. Microscopic Anatomy.-Conferences and laboratory work on the morphological characteristics of the tissues of the animal body. The work is based upon a study of fresh and prepared material and is approached from the physiological viewpoint. Oct.-Feb. Hours and credits (maximum 3 s.h.) by arrangement. Prerequisite: adequate training in histology or cytology.

Dr. Markee and Staff
M203. Anatomy of the Nervous System.-A study of the gross and microscopic structure of the human central nervous system, special attention being paid to the structural and functional relationships between the various nuclei and fiber tracts. Oct.-Feb. Hours and credits (maximum 4 s.h.) by arrangement. Prerequisite: Anatomy M201. Dr. Markee and Staff

M204. Neuroanatomical Basis of Behavior.-A study of the gross and microscopic anatomy of the nervous system with emphasis on the structural and functional relationships between tracts, nuclei, and cortical areas. In so far as possible the result of deficit in a system or systems will be demonstrated
by motion picture aids and the mechanisms involved will be reviewed and discussed. Restricted to graduate students with the equivalent of a major in Psychology. 3 s.h.

Dr. Hetherington

## MICROBIOLOGY

M221. Bacteriology and Immunology.-This course is devoted primarily to the study of the biological and immunological relationships of microorganisms (bacteria, fungi, Rickettsia and viruses) in disease. It is not a course in bacteriologic technique. An additional course in technical methods is provided for those who require it. Five lectures, two 1-hour conferences and three laboratory periods of 3 hours each weekly, in fall quarter. Prerequisites : courses in general zoology, general botany, histology and comparative anatomy, general and organic chemistry. 6 s.h. Dr. D. T. Smith and Staff

M322. Immunochemistry.-A seminar dealing with the fundamentals of immunological reactions in general and with the chemistry of antigen-antibody reactions in particular. 2 s.h.

M323. Advanced Bacteriology and Immunology.-This course is intended primarily for graduate students majoring in bacteriology, but it is also available as a minor to such other graduate students in related fields, to whom it is recommended by respective supervising committees and with the approval of the Department of Bacteriology. Prerequisites: Bacteriology and Immunology, M221. 8 s.h.

Dr. D. T: Smith and Staff
M324. Research Seminar on Viruses.-Limited to advanced students. 2 s.h. per semester.

Dr. Beard
M325. Medical Mycology.-This course is intended to familiarize the graduate student, majoring in mycology, with the fungi causing disease in man and animals. The course includes practical laboratory work with materials from patients in Duke Hospital and that sent to the Duke Fungus Registry from outside sources. Prerequisites: A.M. in Botany with Major in Mycology and M221. Course limited to four students each year. 8 s.h. Dr. Conant

## BIOCHEMISTRY AND NUTRITION

The program of graduate studies in biochemistry is designed primarily for Ph.D. candidates who intend to pursue a research career in this field. Candidates for the A.M. degree only are not encouraged to apply for admission and are accepted only under exceptional conditions. Before registering for graduate courses in biochemistry, students are required to have completed at least one year of graduate course work in chemistry, physics, and/or biology at Duke University or at some other approved institution. As preparation for courses in advanced chemistry, the student must have completed college courses in analytical geometry and elementary calculus. He also must have had adequate preparation for the reading examination in French and German which is required of candidates for the Ph.D. degree.

M241. General Biochemistry and Nutrition.-Three lectures, four laboratory periods of three hours each, one two-hour seminar weekly for eighteen weeks. Prerequisites: general chemistry, organic chemistry, physical and analyticai chemistry, and at least one year of college biology. Feb.-June. 8 s.h.; without laboratory work 3 s.h.

Drs. Taylor, Neurath, Handler, M. L. C. Bernheim and Schwert

M242. Biochemical Preparations.-Laboratory work with conferences when necessary. This course involves detailed study of the chemistry of enzymes, proteins, fats, carbohydrates and derivatives. Prerequisite: Biochemistry 241 or its equivalent. Hours by arrangement. 2, 3, or 4 s.h.

Drs. Handler, Neurath, and Schwert

M341. Theories and Methods of Physical Biochemistry. - $\Lambda$ lecture and seminar course on basic physical concepts and experimental methods in the study of biological compounds and systems. With demonstrations. Given alternately with M343-344. 2 s.h.

Drs. Neurath and Schwert
M343-344. Biochemistry of Proteins and Enzymes.-A lecture and seminar coursc devoted to the chemical, physical and biological properties of proteins and enzymes. In the first semester, general aspects of protein chemistry will be considered, whereas in the second semester specific protein and enzyme systems will be reviewed. Given alternately with M341. 4 s.h.

Drs. Neurath and Schiwert
M345-346. Scminar required of all graduate students majoring in biochemistry, onc hour per week. 2 s.h.

Drs. Neurath, Taylor, Handler, Schwert, and M. L. C. Bernheim
M347-348. Biochemical Research.-A laboratory course in which the students are introduced to spccialized concepts and methods currently employed in biochemical rcsearch. This will be accomplishod by rotating assignment of the students to the various special laboratories of the department. Prerequisite: Biochemistry M241 or its equivalent. 2, 3, or 4 s.h.

Drs. Taylor, Neurith, Handler, Schwert, And M. L. C. Bernheim

M349-350. Intermediary Metabolism.-A seminar course devoted to a study of the dctailed mechanisms of carbohydrate, fat and protein metabolism. Given alternately with Biochemistry M351-352. Prerequisite: Biochemistry M241 or its equivalent. 4 s.h.

Dr. Handler
M351-352. Nutrition.-A seminar course in which the chemical and physiological behavior of essential nutritional factors is considered, as well as the nature of deficiency states. Prerequisite: Biochemistry M2 41 or its equivalent. Given alternately with Biochcmistry M349-350. 4 s.h. Dr. Handler

## hematology

M211. Thrce lecturcs and three laboratory periods of 3 hours each, weekly, for eleven weeks in the spring quarter. Prerequisites: courses in general zoology, gencral botany; histology and comparative anatomy. 4 s.h.

Dr. Rundles

## PHYSIOLOGY AND PHARMACOLOGY

M261-262. Human Physiology.-Six lectures and twenty laboratory hours pcr week. Prerequisites: Anatomy $\$ 201$ and Biochemistry 1 I241 (or equivalents) and at least one year of college physics. Feb.-June. Credits depending on work taken. (Maximum 8 s.h.)

M365. Respiration and Aero-Physiology.-A study of the fundamental respiratory proccsses in living organisms, and of the spccial physiological responses and adjustments of the individual during high altitude flight. Lectures, conferences, laboratory. Prerequisites: M261-2 or equivalent. 4 s.h. Dr. Hall

M367. Physiology of the Nervous System.-Presentation of the fundamontal processes of nervous tissue and of the integration of these functions in man. Lectures, conferences, and laboratory. Prerequisites: M261-2 or equivalent. 2 s.h.

Dr. Eadie
M369. Pharmacology. Mode of Action of Drugs.-Studies and discussions of the pharmacological action of drugs in terms of biochemical and physiological processes. Lectures, conferences, and laboratory. Prerequisites: M261-2 or equivalent. 4 s.h.

Dr. F. Bernheim

M370. Seminar.- A weekly mecting of graduate students and staff in which papers reviewing classical and current physiological literature are reported. Required of all graduate students who are candidates for A.M. or Ph.D. degree. 2 s.h. Dr. Eadie, Dr. Hall and Staff
M372. Research.-Individual investigations in the various fields of physiology. Credits to be arranged.

Staff
MEDICAL PARASITOLOGY
M291. Medical Parasitology.-One lecture and one threc-hour laboratory period per week for elevell weeks during the fall quarter. Prerequisites: courses in Zoology 204, general botany, histology and comparative anatomy. 1 s.h.

## ADVANCED DEGREES CONFERRED JUNE 6, 1949

Anderson, Norman Gulack
Batson, Wade Thomas, Jr.
Brown, Joshua R. C., III
Brown, Margaret June
Burnside, Dunklin Sullivan, Jr.
Canon, Alfred Orville, Jr.
Chernuchin, Vivian
Chreitzberg, Augustus M., Jr.
Cooper, Charles Dewey
Copeland, William LeKoy
D'Amico, Frank J.
Emerson, Charles Edward
Farthing, Carrie Lee
Gilbert, Mary Jo
Gross, Dawyer Dincoff
Guilds, John Caldwell, Jr.
Hamilton, Thomas Theodore
Harris, James Thurloe, Jr.
Harrison, Monique W .
Herrington, Alfred Harold
Hobgood, Alton A.
Hones, Edward Wheeler, Jr.

MASTEK OF ARTS
Hubbell, Jay Broadus, Jr.
Huntsman, Carmen
James, Keith Warren
L.ehnberger, Sigrid Louise

Martinelli, Robert Owens
Nelson, Norman Kent
O'Brien, Joseph William
Oppenheim, Stanley R.
Reece, James B.
Reed, Frederick Venable
Shilh, Chung-Wen
Shuford, Haywood Rlyne, Jr.
Silva, Joseph A.
Stancik, Edwin Edward
Stephenson, Harold Patty
Tsai, Tze-ting
Wagner, Fred Reese
Walter, Eugene Victor
Watts, Robert Johnson
Wellborn, Mary Moss
Williams, Hatcher Crenshaw

MASTER OF EDUCATION
Murphy, Lyle Johnson
Sharpe, Annie Lane
Zumner, Thehma Butler
DOCTOR OF PHILOSOPHY
Bass, Arnold Marvin, B.S., The College of the City of New York; A.M., Duke University.
Dissertation: Fluorescence Spectra of Some Monosubstituted Benzenes in the Near U'ltraviolet.
Bowles, Robert Clay: A.B., Central College; A.M., Southern Methodist University.
Dissertation: The Social Philosophy of Charles Fouricr and Its Influence in Europe.
Bryan, Thomas Conn, A.B., Duke University; A.M., University of North Carolina.
Dissertation: Confederate Georgia.
Burch, Robert LeRoy, A.B., Iowa State Teachers College; A.M., State Uni. versity of Iowa.
Dissertation: An Eraluation of Analytic Testing in Arithmetic Problem Solving.

Cakter, Robert Lefoy, B.S., University of Oklahoma.
Dissertation: Saturation Effect in the Microzaz'e Spectrum of 4 mmonia .
Cobbs, Walter Herbert, Jr., B.S., Hampden-Sydney College.
Dissertation: The Infrared Spectra of Some Organic Compounds.
Cofresı, Emilio, B.A., West Virginia University; M.A., University of Illinois. Dissertation: Differential Fertility in Puerto Rico.

Cohen, Louis David, B.S., Brooklyn College; A.M., Columbia University. Dissertation: Level of Aspiration Beharior in Certain Psychosomatic Disorders.
Ferrell, William Kreiter, B.S., University of Michigan; M.F., Duke University.
Dissertation: The Effect of Environmental Conditions on the Survizal and Growth of Forest Tree Seedlings Under Field Conditions.
Freeman, John Alderman, B.A., M.A., Wake Forest College.
Dissertation: Orygen Consumption, Brain Metabolism and Respiratory Movements of Goldfish During Temperature Acclimatization, zeith Special Reference to Lowered Temperatures.
Gentry, Ivey Clenton, B.S., Wake Forest College; B.S., New York University ; A.B., Duke University.
Dissertation: On Extending a Homeomorphism Defined Oier Subsets of 2-Dimensional Orientable Manifolds.

Gilbert, Alfred Rachels, B.S., University of Richmond; A.M., Duke University.
Dissertation: A Study of the Attack of Elementary Fluorine Upon Certain Deactivated Aromatic Rings.
Gordon, Morris Aaron, B.S., The College of the City of New York; M.S., University of Chicago.
Dissertation: The Physiology of a Blue Stain Mold with Special Reference to Production of Ethyl Acetate.
hackney, Edward June, Sr., B.S., Duke University.
Dissertation: The Near Ultraviolet Absorption Spectra of Solutions of Some Monosubstituted Benzene Derivatives.
Haley, Leanor Dayison, A.B., A.M., Duke University. Dissertation: Etiology of Otomy'cosis.

Hickey, Robert Lours, B.S., East Temnessee Teachers College; A.M., Duke University. Dissertation: John Donne's Legal Knozeledge.
Holub, Fred Franklin, B.S., Adelbert College of Western Reserve University. Dissertation: A Comparison of Elementary Fhtorine with Cobalt Trifuoride as Fluorinating Agents for Aliphatic Ketones.
Hopkins, James Franklin, A.B., University of Mississippi ; A.M., University of Kentucky.
Dissertation: History of the Hemp Industry in Kentucky.
Huston, Hollis Wilburn, A.B., Williamette University; B.D., Duke University. Dissertation: A Critical Survey and Ezaluation of the Earliest Greek Manuscripts of the Neze Testament.
James, Herman Brooks, B.S., M.S., North Carolina State College.
Dissertation: The Effects of the Mechanization of Agriculture in the Northern Tidewater Area of North Carolina.
Jarnagin, Milton Preston, Jr., A.B., A.M., University of Georgia. Dissertation: Open Non-Alternating at Most Two-to-One Transformations of Connected Linear Graphs.
Kantor, Simon William, B.S., The College of the City of New York. Dissertation: $\sigma$ and $\beta$-Eliminations, Dimerizations, and Rearrangements Involving Carbanions.

Kaufman, Elaine Elkins, A.B., Wellesley College.
Dissertation: Chemical and Enzymatic Studies on Crystalline Carborypeptidase.
Kaufman, Seymour, B.S., M.S., University of Illinois.
Dissertation: Chemical and Ensymatic Studies on Crystalline Chymotrypsin.
Keever, Nancy Catherine, A.B., A.M., Duke University.
Dissertation: Causes of Succession on Old Fields of the Piedmont, North Carolina.
Kittila, Richard Sulo, B.Chem., University of Minnesota; A.M., Duke University.
Dissertation: The Synthesis of Phenanthrene Derivatives.
Long, John W., Jr., A.B., Dickinson College; A.M., Duke University.
Dissertation: The San Juan Island Boundary Controversy; a Phase of 19th Century Anglo-American Relations.
Miles, Ernest Percy, Jr., B.S., Birmingham-Southern College; A.M., Duke University.
Dissertation: A Minimal Problem for Harmonic Functions in Space.
Nau, Walter Theodore, A.B., Guilford College; B.D., Concordia Theological Seminary; A.M., Duke University.
Dissertation: Jules Romains: A Critic of French Politics.
Pope, Hilda Persons, A.B., Georgia State College for Women; A.M., Duke University.
Dissertation: The Effect of Vitamin Analogues on Growth of the Tubercle Bacillus.
Quarterman, Elsie, A.B., Georgia State Woman's College; A.M., Duke University.
Dissertation: Plant Communities of Cedar Glades in Middle Tennessee.
Ralston, Charles William, B.S., Colorado Agricultural and Mechanical College; M.F., Duke University.
Dissertation: Soil Factors Related to the Grozuth of Longlcaf Pine in the Atlantic Coastal Plain.
Ring, Harold Francis, B.S., Massachusetts Institute of Technology.
Dissertation: Determination of the Nuclear Spins and Nuclcar Quadrupole Moments of $B^{10}$ and $B^{11}$.

Rogers, Hollis Jetton, B.S., Murray State Teachers College; M.S., University of Kentucky.
Dissertation: The Genus Galactia in the United States.
Roseman, Morris, A.B., A.M., University of Maryland.
Dissertation: An Analysis of Diffcrences in Closure Behazior Betzefn Normal and Nenropsychiatric Subjects.
Rosen, Fred, B.S., University of Wisconsin.
Dissertation: Further Studies on the Mctabolism of Nicotinic Aeid. I. The Transformation of Tryptophan to Nicotinic Acid. II. The Estimation of 6-Pyridone $N^{1}$-Methylnicotinamide and Its Significance in Nicotinic Acid Metabolism.

Rudin, Walter, A.B., A.M., Duke University.
Dissertation: Uniqueness Thcory for Laplace Series.
Sanderson, James Joseph, B.S., Massachusetts State College; M.S., University of Connecticut.
Dissertation: Formation of Beta-Diketones from Kctones and Anhydrides and from Ketone Enol Esters by Boron Fluoride.

Smith, Alexander Goudy, B.S., Massachusetts Institutc of Technology. Disscrtation: Microzace Spetra of Some Cyanogen Halides.
Swamer, Frederic Wurl, B.A., Lawrence College; M.A., University of Virginia.
Dissertation: Condensations by Sodium Hydride, Sodium Amide, and Sodium Plenyl. Alkalinc Clcaz̃aye of Beta-Diketones.
Welss, Martin Joseph, B.A., New York University Dissertation: Certain Aspects of the Chemistry of the Pyridyl Ring System. Syuthesis of Some Potential Drugs.
Wethington, Leilis Elbert, B.A., Wake Forest Collegc; B.D., Duke University
Dissertation: The Role of Nature and Grace in Fénclon's Conception of Salvation.

ADVANCED DEGREES CONFERRED SEPTEMBER 1, 1918

Abramson, Herbert Adams, Anne Shand Caskey, Claire Omar Chew, Jcanne Maurcr Clifford, Nancy Easlcy Cross, Carlyle Curry, Lois Mae
Donoghue, John Joscph, Jr. Flur, Ina Claire Hamilton, Marian Bessent Kennedy, William Bcan

M $\triangle$ STER OF ARTS
McCain, Paul Moffatt
Miller, Margaret Harrell
Moss, Beverly Carradinc
Orange, Linwood Eldcn
Pigott, Otho Keith Pricc, Eugene Patton
Reid, Robert Harding
Robinson, Betty Belle
Shapiro, Oscar Willian
Stark, Lloyd William
Ullman, Arthur
master of education
Kendig, Anna Mac
Norberg, Carl Gustav
Payne, Floyd Merle
Payne, Hura Harrison
Price, James W.
Smith, Theodorc Carroll, Jr.
Thompson, Francis Preston

## BULLETIN OF

## DUKE UNIVERSITY

Catalogue Number

1949-1950
ANNOUNCEMENTS FOR 1950-1951

## ANNUAL BULLETINS

For General Bulletin of Duke University, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of Undergraduate Instruction, apply to The Secretary, Duke University, Durham, N. C.

For Bulletin of The College of Engineering, apply to The Secretary Duke University, Durham, N. C.

For Bulletin of The Graduate School of Arts and Sciences, apply to The Dean of the Graduate School, Duke University, Durham, N. C.

For Bulletin of The School of Law, apply to The Dean of the School of Law, Duke University, Durham, N. C.

For Bulletin of The School of Medicine, apply to The Dean of the School of Medicine, Duke University, Durham, N. C.

For Bulletin of The School of Nursing, apply to The Dean of the School of Nursing, Duke University, Durham, N. C.

For Bulletin of The Divinity School, apply to The Dean of the Divinity School, Duke University, Durham, N. C.

For Bulletin of The School of Forestry, apply to The Dean of the School of Forestry, Duke University, Durham, N. C.

For Bulletin of The Summer Session, apply to The Director of the Summer Session, Duke University, Durham, N. C.

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## CATALOGUE NUMBER

## 1949-1950

ANNOUNCEMENTS FOR 1950-1951

DURHAM, NORTH CAROLINA

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## CALENDAR OF THE COLLEGES

1950
Sept. 14 Thursday, 9:00 A.M.-Dormitories open to freshmen.
Sept. 14 Thursday, 7:30 p.m.-Assembly for all entering freshmen; Freshman Orientation Program begins.
Sept. 18 Monday-Registration and matriculation of new students with advanced standing, Trinity College and the College of E11g1neering.
Sept. 19 Tuesday-Registration and matriculation of new students with advanced standing, Woman's College.
Sept. 20 Wednesday, 11:00 A.m.-Formal opening of the Colleges.
Sept. 21 Thursday-Instruction begins.
Nov. 11 Saturday-Last day for reporting mid-semester grades.
Nov. 14 Tuesday-Junior examination in English Usage.
Nov. 23 Thursday-Thanksgiving Day: a holiday.
Dec. 11 Monday-Founders Day.
Dec. 20 Wednesday, 5:00 p.m.-Christmas recess begins.
1951
Jan. 4 Thursday, 8:00 A.m.-Instruction is resumed.
Jan. 17 Wednesday-Mid-year examinations begin.
Jan. 27 Saturday-Mid-year examinations end.
Jan. 29 Monday-Registration and matriculation of new students.
Jan. 30 Tuesday-Last day for matriculation for second semester.
Jan. 31 Wednesday-Second semester begins.
March 15 Thursday-Last day for reporting mid-semester grades.
March 24 Saturday, 12:30 P.M.-Spring vacation begins.
April 2 Monday, 8:00 A.m.-Instruction is resumed.
May 21 Monday-Final examinations for second semester begin.
May 31 Thursday-Final examinations end.
June 2 Saturday-Commencement begins; Senior Class Day; meeting of the Board of Trustees.
June 3 Sunday-Commencement Sermon.
June $\quad 4$ Monday-Commencement Address; Graduating Exercises.
The above is the basic University Calendar, applying more particularly to the Undergraduate Colleges. Variations as affecting the various Schools are included in the catalogue bulletins of such Schools.

## 1950

| JANUARY |  |  |  |  |  |  | APRIL |  |  |  |  |  |  | JULY |  |  |  |  |  |  | OCTOBER |  |  |  |  |  |  |
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## HISTORY

Duke University owes its existence to a charitable trust set up by James B. Duke by an Indenture dated December 11, 1924, and known as the Duke Endowment: to gifts made by him to the University in the succeeding year; and to bequests that came through his will at his death, October 10, 1925. It is built around Trinity College which was brought to Durham and maintained there largely through the generosity of the Duke family.

Trinity College in its origin goes back to 1838. In that year the citizens of a rural community in the northwest section of Randolph County, North Carolina, established a school with Rev. Brantley York as principal. In 1839 this school was enlarged and named Union Institute. In 1841 it was incorporated by the following enactment of the Legislature of North Carolina:
An Act to Incorporate Union Institute Academy:*
Be it enacted by the General Assembly of the State of North Carolina, and it is hereby enacted by the authority of the same, That Nathan Hunt, Joseph Mendenhall, Joseph Johnson, Lewis Leach, Jabez Leach, Martin W. Leach, and Ahi Robbins, and their successors, are hereby constituted a body corporate and politic to be known and distinguished by the name and style of the Trustees of Union Institute Academy, and by that name shall have succession, and shall be able and capable in law to have, receive and possess lands and tenements, goods and chattels, acquired by gift or otherwise, and use and apply the same according to the will of the donor, or dispose of the same when not forbidden by the terms of the gift. They may sue and be sued, plead and be impleaded in any Court of Justice, and shall have power to fill vacancies in their body, which may occur by death, resignation, or otherwise, establish such laws and regulations for the government of said Institution as they may deem necessary, not inconsistent with the laws of this State, and do and perform all such acts and things as are incident to, and usually exercised for, bodies politic, for the accomplishments of the object contemplated.

Ratified the 12th day of January, 1841.
In the year 1842 Braxton Craven became principal of the school. The growth and development of the school caused the Trustees to plan to put it in direct relation to the educational needs of the public schools of the State. Application was made to the Legislature of North Carolina for a new charter, and on January 28, 1851, Union Institute Academy was incorporated as Normal College by the following enactment:

[^30]* Laws of North Carolina, 1840-1843.
$\dagger$ Laws of $1850-1851$, chapter 20 , page 56.
time to time make all needful rules and regulations for the internal government of said College, and fix the number and compensation of teachers to be employed therein, to prescribe the preliminary examinations and the terms and conditions on wbich pupils shall be received and instructed, and the number of pupils to be received from the respective counties.

SEC. 4. Be it furtber enacted, That said Trustees shall have power to make such rules, regulations and bylaws, not inconsistent with the Constitution of the United States and of this State as may be necessary for the good government of said College, and tbe management of the property and funds of the same.

SEC. 5. Be it further enacted, That wben any pupil shall have sustained a satisfactory examination on the studies, or course of studies, prescribed by the Faculty and Trustees of said College, such person shall be deemed qualified to teach common schools and may receive a certificate signed by the President and at least seven Trustees, whicb certificate shall be sufficient evidence of ability to teach in any of the common schools in this State, without any reeexamination of the county committees; and where county certificates are now required before paying out the public funds, the certificate of the Normal College sball answer in lieu thereof.

Sec. 6. Be it further enacted, That the whole College course shall be divided into four classes or degrees, styled first, second, third and fourth, and students shall be ranked accordingly.

SEc. 7. Be it further enacted, That all pupils entering said College shall first sign a declaration, in a book to be kept by the President for that purpose as follows: "We, the subscribers, hereby declare that it is our intention to devote ourselves to the business of teaching common schools in the State of North Carolina, and that our sole object in re; sorting to this Normal College is the better to prepare ourselves for that important duty," which declaration it shall be the duty of the President to explain to the pupils before they sign the same.

Ratified 28th January, 1851.
On November 21, 1852, the Legislature ratified amendments to the charter of 1851 including changes and additions as follows:

An Act to Amend an Act, Entitled "An Act to Incorporate Union Institute, in Randolph County, Normal College' ' :*
Section 1. Be it enacted by the General Assembly of tbe State of North Carolina, and it is hereby enacted by the authority of the same, That J. C. Dobbin, John A. Gilmer, W. H. Washington, A. H. Sheppard, H. B. Elliott, J. M. Leach, Joseph Johnson, S. G. Coffin, A. S. Andrews, Joseph B. Cherry, N. W. Woodfin, B. Craven, James Leach, Calvin Graves, Ahi Robbins, John B. Troy, Robert Strange, John W. Thomas, Samuel Hargrave, J. P. H. Russ, W. M. Leach, W. L. Steele, R. M. Saunders, W. B. Lane, G. W. Caldwell. C. H. Wiley, Jabez Leach, John A. Lillington, J. T. Morehead, Thales McDonald, R. C. Puryear, S. P. Hill, Alexander Gray, James M. Garrett, and Edward Ogburn and their successors be, and they are hereby declared, a body politic and corporate to be knoven and distinguished by the name and style of "Tbe Trustees of Normal College," and by that name and style shall have a perpetual succession and a common seal, and be able and capable in law of holding lands, tenements and chattels for the uses and purposes of said College; and of suing and being sued, and of pleading and being impleaded.

SEC. 2. Be it further enacted, That the Governor of the State shall be ex-officio President of the Board of Trustees, and that the common school superintendent, sbould such an officer exist, shall be ex-officio Secretary of the Board, and that all vacancies in the Board shall be filled by a majority of the Trustees of said College.

Sec. 3. Be it further enacted, That the Trustees shall have power of appointing an Executive Committee, to consist of seven members which committee shall control the internal regulations of said College, and fix all salaries and emoluments, and of doing all other things necessary for an institution of learning not inconsistent with the laws of this State and of the United States.

SEc. 4. . . They shall have also the power to grant such degrees and marks of honor as are given by Colleges and Universities generally.

SEC. 5. Be it further enacted, That the Secretary of the Board of Trustees sball, within ten days after the meeting of each [Legislature] make a full report of the condition and operations of said Normal College, and the general character of Normal In: struction; also, the condition and progress of Normal schools generally, together witb ali other information deemed important in the education of teachers, giving also the names and residences of all who have been authorized to teach.

Sec. 6. Be it further enacted, That the President and Directors of the literary fund are hereby directed to loan to the Trustees of Normal College, the sum of ten thousand dollars out of any moneys not otherwise appropriated, at six per cent interest, to be paid semiannually, upon said Trustees giving bond and good security for the same.

Under the amended charter authorizing the institution to confer degrees, two students were graduated on July 28, 1853, with the degree of Bachelor of Arts.

In the year 1853-1854 a larger building was erected by means of money lent by the State of North Carolina under the authority granted in the

[^31]amended charter. In November, 1856, the Trustees of Normal College authorized President Craven to propose to the North Carolina Conference of the Methodist Episcopal Church, South, that the institution be placed under the ownership and control of that body. The Conference passed the following resolution:

1. That the Conference authorize and request the Board of Trustees of Normal College to raise by donations twenty thousand dollars.
2. That all lands and property belonging to the College be conveyed to the Board of Trustees in trust for the North Carolina Conference.
3. That the Conference fill all vacancies in the Board.
4. That the Conference appoint a visiting committee, which committee shall have equal power with the Board as to the internal regulations and operations of the College.

Within the following two years the Trustees arranged to meet all the conditions stipulated. The North Carolina Conference of the Methodist Episcopal Church, South, in consequence, became invested with the complete ownership and control of the College.

On February 16, 1859, the charter was amended and the name of the institution changed to Trinity College by the following enactment of the Legislature of North Carolina:

## An Act to Amend the Charter of Normal College:*

Section 1. Be it enacted by the General Assembly of the State of North Carolina, and it is hereby enacted by the authority of the same, That the corporation established by an act passed in 1852, and known by the style and title of the "Trustees of Normal College," be and the same is hereby changed to Trinity College; and said corporation shal henceforth, by the name and style of Trinity College, hold and use all the authority, privileges, possessions and liabilities it had under the former title and name.

SEC. 2. Be it further enacted, That the estate, real and personal, received and controlled by the Trustees of Trinity College, shall be for the uses and purposes of a literary institution for the North Carolina Conference of the Methodist Episcopal Church, South.

Sec. 3. Be it further enacted, That all vacancies in the Board of Trustees shall be filled by said North Carolina Conference: Provided, however, that no person shall be elected a Trustee till he has first been recommended by a majority of the Trustees present at a regular meeting; and the Trustees shall have power to remove any member of their body who may remove beyond the boundaries of the State, or who may refuse or neglect to discharge the duties of a Trustee.

Sec. 4. Be it further enacted, That the Faculty and Trustees shall have the power of conferring such degrees and marks of honor as are conferred by colleges and universities generally; and that five Trustees shall be a quorum to transact business.

Sec. 5. Be it further enacted, That no person shall keep, maintain, or have at Trinity College, or within two miles thereof, any tippling-house establishment, or place for the sale of wine, cordials, spirituous or malt liquors; nor shall any person in the State, without a written permission from the Faculty, sell, or offer to sell, give or deliver to any student of Trinity College, or to any other person, any wine, cordials, spirituous or malt liquors for the purpose of being used or with a knowledge that the same will be used at said College, or within two miles thereof, by any student.

Sec. 6. Be it further enacted, That no person shall set up, keep or maintain at Trinity College, (or) within two miles thereof, any public billiard table, or other table, of any kind at which games of chance or skill, by whatever name called, may be played; and that no person, without written permission from the Faculty, shall within the same limits exhibit any theatrical, sleight-of-hand, natural or artificial curiosities, or any concert, serenade, or performance in music, singing or dancing.

Sec. 7. Be it further enacted, That sections second, fourth and fifth of the charter passed in 1852, are hereby repealed, and that all acts and laws coming within the meaning and purview of this present act are hereby repealed.

During the Civil War the College shared the common fate of Southern colleges. President Craven resigned in 1863, and Professor William T. Gannaway was elected his successor. In October, 1865, Dr. Craven was re-elected to the presidency; however, the work of the College, which had been suspended in April of that year, was not resumed till January, 1866. Dr. Craven remained president of the College till his death, November 7, 1881. Professor William Howell Pegram was then elected chairman of the Faculty. He served till the close of the academic year, June, 1883.

The Reverend Marquis L. Wood was elected president in 1883; he resigned in December, 1884, when Professor John F. Heitman was elected chairman of the Faculty. John Franklin Crowell was chosen president of the College in April, 1887.

[^32]President Crowell conceived the idea of enlarging the scope of college work and of removing Trinity College to a city. The Board of Trustees on May 7, 1889, passed the following resolutions:

Resolved (1). That after mature and prayerful consideration we believe it best for the interest of Methodism in North Carolina, and the cause of God, to move Trinity College to some prominent center within this State: Provided, There shall be tendered to this Board a proper guarantee of a suitable site, with buildings on it, of at least equal value, and as well suited for the uses of the College as those on the present site.

Resolved (2). That a committee of five be appointed to carry out the true intent of the above resolution, and report to the next annual meeting of the Board of Trustees.

At a meeting of the Trustees held in Greensboro, North Carolina, November 30, 1889, the following resolutions were adopted:

Resolved (1). That the Board of Trustees of Trinity College accept the offer of the citizens of Raleigh to erect a college building on the site designated, said building to be according to the plans and specifications mentioned in their offer.

Resolved (2). That we recommend the N. C. Annual Conference of the M. E. Church, South, to authorize the removal of Trinity College in accordance with the above and former resolutions passed by this Board.

Resolved (3). That the grounds and buildings now owned and used at Trinity College be held by the same Board of Trustees to be used as an academical department to prepare students for the college classes.

In accordance with these resolutions, through President Crowell, the Conference was asked at its session in Greensboro, December, 1889, to grant permission to remove the College to the City of Raleigh. The Conference took the following action:

Resolved, That the Board of Trustees of Trinity College be and is hereby authorized and directed to move Trinity College to the City of Raleigh, when the citizens of said city shall have erected on the site designated and known as the Boylan lot, the building proposed and agreed to be built by them Provided, That before said college is moved, as aforesaid, there shall be made, executed and delivered to said Trustees a good and sufficient deed in fee simple with proper covenants of warranty and seizin, conveying the lot and site designated to said Trustees and their successors in office, for the use and benefit of the North Carolina Conference, Methodist Episcopal Church, South, as it now exists, and for the use and the benefit of such Conferences. as may be hereafter created by the Methodist Episcopal Church, South, out of any territory within the State of North Carolina.

Some time after this action of the Conference, Washington Duke and other citizens of Durham, North Carolina, made a proposition to the Trustees to locate the College in Durham, and this proposition was accepted. On January 21, 1891, the Legislature of North Carolina issued the following charter:

## An Act to Amend the Charter of Trinity College:

The General Assembly of North Carolina do enact:
Section 1. That the Trustees of Trinity College are authorized and empowered to remove the operations and exercises of said College, and to locate the buildings deemed necessary by them for the purpose of the College, at or near the town of Durham, North Carolina. They may, if they so elect, establish and maintain in connection with said College institutions of primary and intermediate education at the present site of the College in Randolph County, and at such other points as they may now or hereafter determine, for the purpose of preparing students for admission to a collegiate course. The management of such auxiliary and subordinate high schools and academies shall be vested in the said Board of Trustees, who are authorized to make by-laws and regulations for them, as well as for the College proper.

Sec. 2. That the Trustees of Trinity College are authorized to receive and hold by gift, devise or purchase, property, real and personal, to be held for the use of said Coilege and its dependent schools or for the use of either or both (as may be designated in the conveyance or will), (to a value not exceeding in the aggregate sum three millions of dollars).

Sec. 3. That the Trustees shall be thirty-six in number, of whom twelve shall be elected by the North Carolina Conference of M. E. Church, South, twelve by the W. N. C. Conference of said church, and twelve by graduates of said College. The term of office of Trustees shall be six years, and they shall be so arranged that four Trustees shall be elected by each Conference and four by the graduates every two years. The Trustees shall regulate by by-laws the manner of election of the Trustees to be chosen by the graduates. Should there exist a vacancy by death, resignation, or otherwise, of any Trustee, the same shall be filled for the unexpired term by the Board of Trustees. The terms of the Trustees now in office shall expire January first, one thousand eight hundred and ninetytwo. At the first election held under this amendment to the Charter, the body of gradwates and each of the Conferences shall respectively elect four Trustees for the term of
two years; in like manner each of said constituencies shall elect four Trustees for the term of four years, and in like manner each shall elect four Trustees for the term of six years.

In September, 1892, the College opened its first session in the new plant located at Durham. In May, 1894, President Crowell resigned, and on August 1, 1894, the Reverend John C. Kilgo was elected his successor. In May, 1897, the Trustees authorized the admission of women as students to all departments of the College.

On account of the fact that the fundamental laws under which the College was managed were contained in an original charter and in several amendments, it was deemed best by the Board of Trustees, in June, 1902, to appoint a committee to make an application to the Legislature for a new charter, which should unify and harmonize the provisions of the existing legislation. On February 28, 1903, the Legislature of North Carolina granted the new charter which is identical with the charter as found on pages 13-14, except that the corporate name of the institution is changed to Duke University and the corporation is given perpetual existence, an amendment enacted by the General Assembly of North Carolina, January 19, 1911, having already stricken out the limitations set in former charters to the amount of property the College might hold.

Having been elected a bishop of the Methodist Episcopal Church, South, President Kilgo resigned in June, 1910. William Preston Few was elected to succeed him and was formally inaugurated November 9, 1910.

On December 29, 1924, the Board of Trustees of Trinity College met to consider the Indenture of Trust executed by James B. Duke, December 11, 1924. The Board voted unanimously to accept the provisions of the Indenture insofar as it affected Duke University, and authorized the necessary steps to be taken whereby, on December 30, 1924, a charter for the University was granted. The charter follows closely that of Trinity College and is printed on pages 13-14.

President Few died October 16, 1940. Dr. R. L. Flowers was elected President January 29, 1941.

On November 19, 1948, Arthur Hollis Edens was named President to succeed Dr. Flowers, who was made Chancellor on the same day.

Duke University is approved by the recognized accrediting agencies in the field of university education and is a member of various associations devoted to the interests of such education. Among those in which it holds membership are the Association of American Universities, the Southern Association of Colleges and Secondary Schools, the American Association of Colleges, the Southern University Conference, the American Association of Law Schools, the Association of American Medical Colleges, the American Association of Theological Schools, and others.

## GOVERNMENT

## 1. THE INDENTURE OF TRUST BY WHICH THE UNIVERSITY WAS CREATED

Among the provisions of James B. Duke's Indenture of Trust was an educational institution to be known as Duke University, in respect to which the Indenture contains the following provisions, and these provisions apply also to gifts made by him the year before he died and to bequests that came to the University at his death or that have come since :
I. (In Article FOURTH) The Trustees hereunder are hereby authorized and directed to expend as soon as reasonably may be not exceeding Six Million Dollars of the corpus of this trust in establishing at a location to be selected by them within the State of North Carolina an institution of learning to be known as Duke University, for such purpose to acquire such lands and erect and equip thereon such buildings according to such plans as the Trustees may in their judgment deem necessary and adopt and approve for the purpose, to cause to be formed under the laws of such state as the Trustees may select for the purpose a corporation adequately empowered to own and operate such properties under the name of Duke University as an institution of learning according to the true intent hereof, and to convey to such corporation when formed the said lands, buildings and equipment upon such terms and conditions as that such corporation may use the same only for such purposes of such university and upon the same ceasing to be so used then the same shall forthwith revert and belong to the Trustees of this trust as and become a part of the corpus of this trust for all the purposes thereof.

However, should the name of Trinity College, located at Durham, North Carolina, a body politic and incorporate, within three months from the date hereof (or such further time as the Trustees hereof may allow) be changed to Duke University, then, in lieu of the foregoing provisions of this division "FOURTH" of this Indenture, as a memorial to his father, Washington Duke, who spent his life in Durham and whose gifts, together with those of Benjamin N. Duke, the brother of the party of the first part, and of other memTrinity College at that place, he directs that the Trustees shall expend of bers of the Duke family, have so largely contributed toward making possible the corpus of this trust as soon as reasonably may be a sum not exceeding Six Million Dollars in expanding and extending said University, acquiring and improving such lands, and erecting, removing, remodeling and equipping such buildings, according to such plans, as the Trustees may adopt and approve for such purpose to the end that said Duke University may eventually include Trinity College as its undergraduate department for men, a School of Religious Training, a School for Training Teachers, a School of Chemistry, a Law School, Co-ordinate College for Women, a School of Business Administration, a Graduate School of Arts and Sciences, a Medical School and an Engineering School, as and when funds are available.
II. (In Article FIFTH) Thirty-two per cent of said net amount not retained as aforesaid for addition to the corpus of this trust shall be paid to that Duke University for which expenditures of the corpus of the trust shall have been made by the Trustees under the "Fourth" division of this Indenture so long as its name shall be Duke University and it shall not be operated for private gain, to be utilized by its Board of Trustees in defraying its administration and operating expenses, increasing and improving its facilities and equipment, the erection and enlargement of buildings and the acquisition of
additional acreage for it, adding to its endowment or in such other manner for it as the Board of Trustees of said institution may from time to time deem to be of its best interests, provided that in case such institution shall incur any expense or liability beyond provision already in sight to meet same, or in the judgment of the Trustees under this Indenture be not operated in a manner calculated to achieve the results intended hereby the Trustees under this Indenture may withhold the whole or any part of such percentage from said institution so long as such character of expense or liabilities or operation shall continue, such amounts so withheld to be in whole or in part either accumulated and applied to the purposes of such University in any future year or years, or utilized for the other objects of this Indenture, or added to the corpus of this trust for the purpose of increasing the principal of the trust estate, as the Trustees may determine.
III. (In Article SEVENTH) I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical, lines, is, next to religion, the greatest civilizing influence. I request that this institution secure for its officers, trustees, and faculty, men of such outstanding character, ability, and vision as will insure its attaining and maintaining a place of real leadership in the educational world, and that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination. and application evincing a wholesome and real ambition for life. And I advise that the courses at this institution be arranged, first, with special reference to the training of preachers, teachers, lawyers and physicians, because these are most in the public eye, and by precept and example can do most to uplift mankind, and second, to instruction in chemistry, economics, and history, especially the lives of the great of earth, because I believe that such subjects will most help to develop our resources, increase our wisdom and promote human happiness.
IV. (In Article THIRD) As respects any year or years and any purpose or purposes for which this trust is created (except the payments hereinafter directed to be made to Duke University) the Trustees in their uncontrolled discretion may withhold the whole or any part of said incomes, revenues and profits which would otherwise be distributed under the "Fifth" division hereof, and either (1) accumulate the whole or any part of the amount so withheld for expenditures (which the Trustees are hereby authorized to make thereof) for the same purpose in any future year or years, or (2) add the whole or any part of the amounts so withheld to the corpus of the trust, or (3) pay, apply and distribute the whole or any part of said amounts to and for the benefit of any one or more of the other purposes of this trust, or (4) pay, apply and distribute the whole or any part of said amounts to or for the benefit of any such like charitable, religious or educational purpose within the State of North Carolina or the State of South Carolina, or any such like charitable hospital purpose which shall be selected therefor by the affirmative vote of three-fourths of the then Trustees at any meeting of the Trustees called for the purpose, complete authority and discretion in and for such selection and utilization being hereby given the Trustees in the premises.

## 2. THE CHARTER OF THE UNIVERSITY

Section I. That A. P. Tyer, J. H. Southgate, B. N. Duke, G. A. Oglesby, V. Ballard, J. A. Long, J. F. Bruton, J. N. Cole, F. A Bishop, J. G. Brown, C. W. Toms, J. W. Alspaugh, W. R. Odell, J. A. Gray, F. Stikeleather, Kope Elias, S. B. Turrentine, P. H. Hanes, T. F. Marr, G. W. Flowers, M. A. Smith, R. H. Parker, W. J. Montgomery, F. M. Simmons, O. W. Carr, R. A. Mayer, N. M. Jurney, Dred Peacock, B. B. Nicholson, W. G. Bradshaw, E. T. White, T. N. Ivey, J. B. Hurley, R. L. Durham, W. C. Wilson, and their associates and successors shall be, and continue as they have been, a body politic and corporate under the name and style of DUKE UNIVERSITY, and under such name and style shall have perpetual existence and are
hereby invested with all the property and rights of property which now belong to the said corporation, and said corporation shall henceforth and perpetually, by the name and style of DUKE UNIVERSITY, hold and use all the authority, privileges, and possessions it had or exercised under any former title and name, and be subject to all recognized legal liabilities and obligations now outstanding against said corporations.

Sec. 2. That such corporation is authorized to receive and hold by gift, devise, purchase or otherwise, property, real and personal, to be held for the use of said University and its dependent schools or for the use of either or both (as may be designated in the conveyance or will).

Sec. 3. That the Trustees shall be thirty-six in number, of whom twelve shall be elected by the North Carolina Conference of the M. E. Church, South; twelve by the W. N. C. Conference of the said church; and twelve by the graduates of said University; Provided, however, That no person shall be elected a Trustee till he has first been recommended by a majority of the Trustees present at a regular meeting; and the Trustees shall have power to remove any member of their body who may remove beyond the boundary of the State or who may refuse or neglect to discharge the duties of a Trustee. The term of office of Trustees shall be six years, and they shall be so arranged that four Trustees shall be elected by each Conference and four by the graduates every two years. The Trustees shall regulate by bylaws the manner of election of the Trustees to be chosen by the graduates. Should there exist a vacancy by death, resignation, or otherwise of any Trustee, the same shall be filled for the unexpired term by the Board of Trustees. That the present Trustees shall continue and remain in office during the term for which they have been heretofore respectively elected.

Sec. 4. That the said corporation shall be under the supervision, management and government of a president and such other persons as said Trustees may appoint ; the said president, with the advice of other persons so appointed, shall from time to time make all needful rules and regulations for the internal government of said University and prescribe the preliminary examinations and terms and conditions on which pupils shall be received and instructed.

Sec. 5. That said Trustees shall have power to make such rules, regulations, bylaws not inconsistent with the Constitution of the United States and of this State, as may be necessary for the good government of said University and management of the property and funds of the same.

Sec. 6. That the Trustees shall have power to fix the time of holding their annual and other meetings, to elect a president and professors for said University, to appoint an executive committee to consist of seven members, which committee shall control the internal regulations of said University and fix all salaries and emoluments, and to do all other things necessary for an institution of learning not inconsistent with the laws of this State and of the United States.

Sec. 7. That the Faculty and Trustees shall have the power of conferring such degrees and marks of honor as are conferred by colleges and universities generally ; and that five Trustees shall be a quorum to transact business.

Sec. 8. That all laws and parts of laws or of the charter heretofore granted which are in conflict with this act are hereby repealed.

Sec. 9. That this act shall be in force from and after its ratification and acceptance by the Board of Trustees.

## 3. THE BYLAWS OF THE UNIVERSITY

1. Aims of the University. The aims of Duke University are to assert a faith in the eternal union of knowledge and religion set forth in the teachings and character of Jesus Christ, the son of God; to advance learning in all lines of truth; to defend scholarship against all false notions and ideals; to develop a Christian love of freedom and truth; to promote a sincere spirit of tolerance; to discourage all partisan and sectarian strife; and to render the
largest permanent service to the individual, the state, the nation, and the church. Unto these ends shall the affairs of this University always be administered.
2. The University Trustees, Their Meetings and Their Officers. The Alumni Trustees, nominated by the Board as provided for in the Charter, are elected by the Alumni Association. The officers of the Board are chairman, vice-chairman, and recording secretary. They are elected by the Trustees at their annual meeting to serve one year or until their successors are elected and qualify. The chairman calls to order and presides at all meetings of the Board, calls extraordinary meetings when, in his judgment, such meetings may be necessary, and represents the Trustees at public meetings of the University. He is ex-officio member of the Executive Committee. In the absence of the chairman, the vice-chairman calls to order and presides over meetings of the Board, but does not perform any of the other duties of the chairman unless ordered to do so by the Board or the Executive Committee. The recording secretary records the minutes of all the meetings, does the correspondence, and is the custodian of the records and other documents that may belong to the Board.
3. The Executive Committee. The Executive Committee consists of seven members and may, under certain circumstances, consist of eight members, three of them from the University Trustees, including the chairman of the Board ex-officio, three from the Endowment Trustees, the President of the University ex-officio, and, in the event there is a Chancellor elected and acting, the Chancellor of the University ex-officio. It performs the duties set out for it in the charter-namely, controls the internal regulations of the University and fixes all salaries and emoluments. It has all the powers of the Board of Trustees in the interims between meetings of the Board of Trustees except the nomination of Trustees and election of members of the Executive Committee; however, appointment of officers of the University by the Executive Committee is subject to the approval of the University Trustees. The Executive Committee is expressly empowered to appoint an Investment Committee and to give to such Committee such powers and duties, as in the judgment of the Executive Committee, may seem fit. The Executive Committee is elected by the University Trustees, three of them on nomination of the Endowmnt Trustees, and the Committee elects its own officers who are chairman and recording secretary. It meets once a month (unless otherwise determined by the Committee) and oftener when necessary and by its own resolution sets its time and date of meetings except that special meetings are called by its chairman upon three or more days written or telegraphic notice to the members of the Committee. The Committee, through its chairman, once a year makes a report to the annual meeting of the University Trustees.
4. Officers of the University. The officers of the University are a president, three vice-presidents, a business manager and comptroller, a treasurer, a burser, a dean of the University, and such other deans as may be needed, a recording dean or registrar, and a secretary who is also secretary of the faculty. There may also be a chancellor and a vice-chancellor. Whenever it may seem wise, one person may hold more than one office.

President. The President of the University calls, and presides at, all the meetings of the Faculties, sees that the laws and regulations of the Executive Committee and the Trustees affecting the administration and work of the University are carried out, appoints all committees of the Faculties and has direction of the discipline and work of the University. He has the authority to veto any action of the Faculties, when, in his judgment, such action is not in harmony with the aims and laws of the University, or when he may deem such action as unwise. However, in every instance he shall submit to the Faculty in writing his reasons for setting aside their action, and the secretary of the Faculty shall record his reasons in the record book of the Faculty. The President makes an annual report to the Board of the work, conditions, and needs of the University, and of other matters that may be of concern to it or
to the cause of higher education. He nominates all members of the Faculties, and represents them at all public meetings of the University. He is an ex-officio member of the Executive Committee; and acts, unless the Trustees designate the Chancellor of the University for the purpose, as a medium of communication between the University Trustees and the Endowment Trustees.

Chancellor. There may be a Chancellor of the University. If the Trustees appoint such an officer, he shall be selected for this office because of his long and faithful service to the University. Such an officer, if appointed, is a high officer of the University. He may be designated by the Trustees as the medium of communication between the University Trustees and the Endowment Trustees and when he is so designated the President does not act in such a capacity. He is available, when requested by the President, to render all possible services in an advisory capacity. He has such other duties as may, from time to time, be delegated to him by the Trustees. If and when a Chancellor is appointed, he is a member ex-officio of the Executive Committee.

Vice-Chancellor. There may be a Vice-Chancellor of the University. If the Trustees appoint such an officer he shall be selected because of his long and faithful service to the University. When requested by the Chancellor, he performs the duties designated to the Chancellor by the Trustees. He is available, when requested by the Chancellor or President, to render all possible services in an advisory capacity. He also has such other duties as, from time to time, may be delegated to him by the Trustees.

Vice-Presidents. The three Vice-Presidents of the University have supervision of the work of the University in the divisions of (a) education, (b) public relations, and (c) student life. In the absence of the President, VicePresidents, in the above order, may perform such duties of the President as may demand immediate attention.

Business Manager and Comptroller. The Business Manager, who is also Comptroller, has the custody of all property of the University. He is responsible to an administrative committee and through such committee to the Trustees either directly or through the Executive Committee for all matters pertaining to the business affairs of the University except the investment of funds and is required to make monthly reports through such administrative committee to the Executive Committee and annual reports through the administrative committee to the Trustees concerning his accounts and the property in his charge. Such administrative committee is composed of not less than three nor more than five persons, three of whom are the President of the University, as chairman, the Business Manager and Comptroller, and a Vice-President selected from time to time by the Trustees or the Executive Committee. The Executive Committee has power to determine the number, if any, of additional members, up to the limit set, to be added to or removed from membership in the committee and in their judgment to make selection of the persons to be so added or so removed. The Business Manager and Comptroller annually prepares or causes to be prepared a Budget of expected Receipts and Disbursements and submits same to the Executive Committee for their approval. Upon such. approval, he is primarily responsible for the operation of the Budget. He nominates to the Executive Committee any and all assistants required by him to do well the duties of his office. The Business Manager and Comptroller shall be required to give bond in such amount as may be designated by the Trustees or the Executive Committee for the faithful performance of his duties.

Treasurer. The Treasurer has primary responsibility for the care and custody of all securities and for the financial records of the University. He makes an annual report of his accounts to the Trustees and such reports, as from time to time, may be required of him by the Executive Committee. He also makes to the Business Manager and Comptroller monthly reports and oftener when required. He nominates to the Executive Committee any and all assistants required by him to do well the duties of his office including the nomination of a Bursar and Assistant Treasurer or Treasurers which officers and assistants shall primarily be responsible to him. The Treasurer and his
assistants shall be required to give bond in such amount as may be designated by the Trustees or the Executive Committee for the faithful performance of their duties.

Bursar. The Bursar has primary responsibility for all collections and disbursements. He is nominated by and responsible to the Treasurer to whom he makes such reports as the Treasurer from time to time requires of him. The Bursar shall be required to give bond in such amount as may be designated by the Trustecs or the Executive Committee for the faithful performance of his duties.

Secretary. The Secretary of the University has custody of the corporate seal of the University and affixes and attests same when circumstances require and the Trustees or the Executive Committee so direct. He is also secretary of the Faculty, attends its meetings and makes permanent records of actions and transactions at such meetings. He has such other duties and responsibilities as his title suggests and as may, from time to time, be delegated to him by the appropriate authorities.
5. Faculties. The General Faculty of the University is composed of professors, associate professors, and assistant professors who have been elected to membership in the Faculty. Concerning questions that do not lie exclusively in the field of any one Faculty and questions of University educational policy this Faculty has the right to enact such regulations as it may deem necessary to carry on the instruction, advance the standard of work, and otherwise develop the scholarly aims of the University. The General Faculty recommends to the Unversity Trustees such persons as it deems fit to receive academic degrees or other marks of academic distinction. This Faculty meets twice a year and at other times on the call of the President or Dean of the University, or on the written request of five members.

The professional schools have their own faculties, each with its dean and other appropriate officers elected by the Executive Committee with the approval of the University Trustees, and each is authorized to perform any educational functions that lie in its field.

The Faculty Council includes the Deans and Assistant Deans of Trinity College and the Woman's College, the Dean of the Graduate School, the Secretary of the General Faculty, the Chairman and Director of Undergraduate Studies in each department offering instruction in the undergraduate colleges of liberal arts and sciences, one additional member elected by each department that has five or more teachers giving instruction in arts and sciences, and such others as may be appointed to membership in the Council by the governing bodies of the University. The Council meets once a month and considers questions of curriculum in the field of arts and sciences and other educational details and policies that are outside the functions of any one faculty.

The Council on Undergraduate Teaching consists of the Deans and Assistant Deans of Trinity College, the Woman's College, the College of Engineering, some other officers and appointed members, and teachers of all ranks who are giving fifty per cent or more of their time to the instruction of undergraduates. Courses to which both Seniors and graduates are admitted are understood as intended primarily for graduate students. The business of this Council is to stimulate good teaching and to find ways and means to make college teachings as effective as possible. It has the right to take such action as may be necessary to promote these ends.

The Council on the Instruction of Freshmen is composed of the Dean of Undergraduate Instruction, the Dean of Freshmen, and the Supervisor of Freshman Instruction from each department offering courses for Freshmen. It considers policies and matters of detail as affecting Freshman Instruction and also provision for the general welfare of Freshmen. The Freshman Council makes recommendations to the Faculty Council for action in matters of general policy. The Freshman Council has the power to call upon members of the Faculty for reports or other information pertaining to the instruction of Freshmen at such dates as it may determine.

The Council on Eduction for Women consists of the Dean of the Woman's College and of one representative from each department offering courses which are largely taken by women students. It shall consider matters of interest and policy relating to the instruction and general welfare of the women students of the University, and make recommendations to the President, or the Faculty Council. The members of the Council on Education for Women are appointed by the President of the University.

The Council on Engineering Instruction consists of the Dean of the College of Engineering, the Secretary of the College, the Dean of the University, the Chairmen of the several departments in engineering, one representative to be appointed by the President of the University from each of the Departments of Mathematics, Physics, Chemistry, Economics, English. The Council deals with questions relating to instruction in engineering, the welfare of engineering students, and the cause of engineers in general. The Executive Committee consists of the Dean and the Secretary of the College of Engineering, and the Chairmen of the Departments of Civil, Electrical, and Mechanical Engineering.

The Council on Graduate Instruction consists of members of the Faculty above and including the ranks of associate professors who give at least half of their time to graduate work under the direction of the Graduate School, and others who may be appointed by the Governing Bodies of the University. One member is appointed from each of the professional schools which give courses for graduate credit, and in some cases more than one. The Council has to do with whatever pertains to instruction and requirements for degrees in the Graduate School of Arts and Sciences.

The Executive Committee of the Council on Graduate Instruction consists of the Dean and six members appointed by the President upon the recommendation of the Dean. Blanks are distributed once a year to each member of the Council with the request that six names be entered on the blank as his suggestions for members of the Committee. It is understood that the Dean is to take these suggestions into account in his recommendations to the President. Insofar as possible the Humanities, Biological and Physical Sciences, Social Sciences, and other fields are to be represented on the Executive Committee of the Council on Graduate Instruction. No more than four of the six committee members are to be reappointed for any ensuing year.
6. Academic Year. The academic year begins on the morning of the Wednesday following September 15. The annual Commencement comes in the week including the first Sunday in June. The Christmas recess begins at 1:00 P.M. December 20 (or December 19 if December 20 falls on Sunday), and ends at 8:00 A.M., January 3 (or January 4 if January 3 falls on Sunday). The spring recess begins at 1:00 P.M. of the Saturday in March nearest to March 25, and ends at 8:00 A.M., of Monday nine days later. Thanksgiving Day is a holiday.
7. Tenure of Office. Teachers of all ranks are subject to removal by the Executive Committee, with the approval of the University Trustees, for misconduct or neglect of duty. Teachers may be elected for terms of one, two, three, or four years; or teachers with the rank of professor may be elected without time-limit. Administrative officers are usually elected without timelimit, but the Executive Committee, with the approval of the University Trustees, may remove any officers of the University whenever, in their opinion, he is not properly performing the duties of his office.
8. The bylaws may be amended at any regular meeting of the University Trustees by the affirmative vote of two thirds of the then membership of the Board, provided that the proposed amendment is submitted through the Secretary of the Board to the members at least twenty days before the meeting.

## SABBATICAL LEAVE

Sabbatical leave of absence for members of the General Faculty is granted under regulations adopted by the Executive Committee of the Trustees on March 28, 1923, revised in 1928, partly in abeyance in the year 1933-34 and
the succeeding three years, and restored in the year 1937-38. The conditions on which sabbatical leave of absence is granted are set forth below.

1. Every member of the General Faculty (composed of professors, associatc professors, and assistant professors) is eligible for sabbatical leave after six years in the service of the University. Such leave may be taken for a full year at half salary or a half year at full salary.
2. In order to obtain a sabbatical leave written request for such leave must be filed with the President of the University by December 1 of the academic year preceding the one in which the leave is to take effect.
3. If in exceptional cases it should develop that the granting of leave to an applicant during the year for which application is made would raise very serious difficulties detrimental to the best interests of the applicant's department or school, or the interests of the institution as a whole; or because of questions concerning the applicant's period of service prior to the leave, the President shall appoint a committee which shall have power to decide the question of granting the sabbatical leave for the particular year under consideration. This committee shall consist of five members as follows: two members of the general faculty appointed yearly by the President, the Treasurer of the University, the Dean of the school or college of which the applicant is a member. the chairman of the applicant's department, or should no such chairman exist another member of the applicant's department.
4. If this committee should decide against the granting of a sabbatical leave for the year for which the applicant applied, the applicant would be eligible for sabbatical leave the following year or any year thereafter upon making application in due form as above.
5. After September 1, 1928, if a member of the faculty on becoming eligible for sabbatical leave does not for some special reason apply for such leave, he may count the additional years of service prior to his leave towards the six years of service necessary before he can apply for a subsequent leave. If in an exceptional case an applicant for personal reasons applies for a sabbatical leave to be effective in advance of his regular year and such leave is granted, he shall not be eligible for a subsequent leave until he has served six years plus the number of years by which this leave is advanced.
6. On recommendation of the committee after leave of absence has been granted it may be postponed for urgent reasons and under conditions to be determined by the committee.
7. All those cases which have occurred in the past or which may occur in the future in which leave of absence is granted under conditions where the absentee receives full pay for a half year or half pay or more for a full year's leave of absence, shall be considered as regular sabbatical leave under these regulations.
8. These revised regulations became effective as of September 1,1928 , and sabbatical leaves under such regulations began with the academic year 1929-30. The regulations were partly in abeyance in 1933-34, 1934-35, 1935-36, and 1936-37. The restoration of the regulations begins with the academic year 1937-38. The four years, 1933-34, 1934-35, 1935-36, and 1936-37, may not count toward the six years of service necessary before application can be made for leave of absence. In all cases in which special arrangements have been made for the granting of sabbatical leave (as described in condition No. 7) during the period of partial abeyance of the plan, the next six years of service shall be counted as beginning with the academic year 1937-38. All other members of the General Faculty who apply for sabbatical leave may count the years of service they had to their credit at the beginning of the academic year 1933-34.

## RETIREMENT

The following resolution was passed by the Board of Trustees on June 5, 1948 :

Resolved, That the following regulations shall from the date of the adoption of this resolution govern the retirement of all officers and employees of Duke University :
I. Retirement.

Except as provided in Section II of this resolution all officers and employees of Duke University, except the Chancellor and Vice-Chancellor, shall retire at the end of the academic year in which they attain the age of sixty-nine (69), herein called the normal retirement age.
II. Extension of Service.

By special vote of the Board of Trustees individual extensions of service beyond the normal retirement age may be made for a definite period not to exceed one year, but no such extension shall postpone retirement beyond the end of the academic year in which the age of seventy (70) is attained.
III. Amendment of Retirement Annuity Plan Adopted October 1, 1925.

The retirement annuity plan adopted by Duke University on October 1, 1925, is hereby amended in those respects required to conform said plan with the provisions of this resolution.
IV. Amendment.

The University reserves the right at any time to amend these regulations by lowering the retirement age, or altering or abolishing the provision for extension of service, or otherwise.

## GOVERNING BODIES AND OFFICERS

## EXECUTIVE COMMITTEE OF THE UNIVERSITY

(Consisting of three members from the University Trustees, three from the Endowment Trustees, and the President of the University.)

## Year of

Election

| Willis Smith, |  | leigh, | N. C. |
| :---: | :---: | :---: | :---: |
| G. G. Allen.. | . 1923. | New York, | N. Y. |
| A. H. Edens | . 1948. | Durham, | N. C. |
| R. L. Flowers | . 1923. | Durham, | N. ${ }^{\text {c }}$ |
| A. R. Kearns | . 1945. | High Point, | N. C. |
| W. N. Reynolds | . 1933. | Winston-Salem, | N. C. |
| A. H. Sands, Jr. | . 1946. | New York, | N. Y. |
| *J. H. Separk. | 1929. | Gastonia, | N. C. |
| B. S. Womble | . 1950. | Winston-Salem, | N. C. |

## UNIVERSITY TRUSTEES

## Term Expires December 31, 1955

| G. G. A | 1923. | New York | N. Y. |
| :---: | :---: | :---: | :---: |
| James A. Bell | 1920. | Charlotte, | N. C. |
| R. G. Cherry | 1934. | Gastonia, | N. C. |
| R. L. Flowers | 1927. | Durham, | N. C. |
| J. P. Frizzell | 1937. | Snow Hill, | N. C. |
| T. M. Grant. | 1933. | Rocky Mo | N. C. |
| E. L. Jones. | . 1945 | Charlotte, | N. C. |
| J. R. Smith. |  | Mount Air | N. C. | FROM THE ALUMNI


| B. F. Few | 1941......New York, | N. Y. |
| :---: | :---: | :---: |
| J. Welch Harriss | 1947.......High Point, | N. C. |
| W. J. Hobbs. | 1947.......New York, | N. Y. |
| H. B. Porter. | 1941..... . Raleigh, | N. C. |

Term Expires December 31, 1951

| $\dagger$ E. S. Bowling. | , | ew York, | N. Y. |
| :---: | :---: | :---: | :---: |
| C. A. Cannon | . 1949. | Concord, | N. C. |
| H. C. Doss | . 1943. | Detroit, | Mich. |
| P. F. Hanes | 1948. | Winston-Salem, | N. C. |
| G. M. Ivey | 1943. | Charlotte, | N. C. |
| W. W. Peele | 1921. | Richmond, | Va. |
| P. L. Sample | . 1950 | McKeesport, | Pa . |
| A. H. Sands, J | . 1946. | New York, | N. Y. |
| B. S. Womble | 1915. | Winston-Salem, | N. C. |

FROM THE ALUMNI


* Died, April 30, 1950.
$\div$ Died, April 15, 1950.



## COMMITTEES OF THE UNIVERSITY TRUSTEES

Buildings and Grounds: J. R. Smith, Cherry, Jordan, Kearns.
Business Administration: P. H. Hanes, Elias, Reynolds, Kearns, Hobbs, Sands. Colleges: Mayer, Bell, P. F. Hanes.
Divinity School: Peele, Grant, Porter, Edgerton, Stanbury. School of Forestry: Cherry, Edgerton, Few, J. R. Smith.
Graduate School: Webb, Flowers, Doss.
Law School: Womble, Cherry, Frizzelle, Alderman, Cocke, P. F. Hanes.
Library: Doss, Allen, Separk,* Bowling, $\dagger$ Harriss.
Medical School and Hospital: Elias, Nalle, Horne, Sidbury.
Physical Education and Athletics: J. R. Smith, Edgerton, Jordan, Harriss, P. F. Hanes.

Engineering and Research: Ivey, Jones, Webb, Jordan, Doss, Sands, Cocke.
Cooperation with National Council: Bowling, $\dagger$ Sands, Few, Kearns, Hobbs, Flowers.
Public Relations and Publicity: Horne, Ivey, Elias, Harriss.

* Died, April 30, 1950.
$\dagger$ Died, April 15, 1950.


## OFFICERS OF ADMINISTRAIION

## GENERAL ADMINISTRATION

Edens, Arthur Hollis, B.Ph., A.M., M.P.A., Ph.D., LL.D.

President of the University

West Campus
Flowers, Robert Lee, A.M., LL.D. Chancellor of the University

West Campus
West Campus
Hope Valley Wannamaker, William Hane, A.B., A.M., Litt.D. Vice-Chancellor of the University
Gross, Paul Magnus, B.S., A.M., Ph.D. Vice-President in the Educational Division
Jordan, Charles Edward, A.B., LL.D. Vice-President in the Division of Public Relations and Secretary of the University

Herring, Herbert James, A.B., A.M., LL.D. Vice-President in the Division of Student Life and Dean of Trinity College

Myrtle Drive
Brower, Alfred Smith, A.B. Business Manager and Comptroller 1550 Hermitage Court
Markham, Charles Blackwell, A.B., A.M. Treasurer of the University

## BUSINESS ADMINISTRATION

Brower, Alfred Smith, A.B. Business Manager and Comptroller
Markham, Charles Blackwell, A.B., A.M. Treasurer of the University

1550 Hermitage Court
204 Dillard Street
Jordan, Charles Edward, A.B., LL.D. Secretary of the University

813 Vickers Avenue
Henricksen, Gerhard Chester, A.B., A.M., C.P.A. Assistant Business Manager and Assistant Comptroller

216 Forest Wood Drive, Forest Hills

Whitford, William Edward, A.B. Director of Operation and Maintenance

804 Third Street
Minah, Theodore Warren, B.S., B.S. in H.M. Manager of Dining Hall Operations

## 2117 Club Boulevard

111 Watts Street
1004 Broad Street
2703 Augusta Drive

Cooper, Walter Glen, B.A. Personnel Director

1518 Echo Road
Howard, William Kenneth, B.S. Maintenance Engineer
Bowers, Henry Franklin, A.B. Manager of Operations
Haywood, Ernest Lee, A.B. Chicf Accountant

106 Pinecrest Road
No. 1 Duke University Apts., Markham and Fifth Streets

Morgan, Henry Speck, A.B. Chief Clerk, Treasurer's Office

104 Hilton Avenue
409 Francis Street
Cousins, James Franklin, A.B., C.P.A. Auditor

416 Carolina Circle
Manning, Kenneth R., A.B. Supervisor, Budgets and Reports

900 Midland Terrace
Fearing, Robert Beveridge
Adviser, Student Activities
1803 Forest Road

Laprade, William T., A.B., Ph.D. Acting Director, Duke University Press

1108 Monmouth Avenue
Brice, Ashbel Green, A.B., A.M.
Editor and Associate Director, Duke University Press 814 Sixth Street
Fike, Edward L., A.B.
Director, Bureau of Public Information
801 Third Street
Mann, Glenn Edward, A.B.
Director of Sports Publicity
Mitchell, Fannie Yarbrough Director, Appointments Office

16 Alastair Court

Boy, Carl A.
Superintendent of Utilities
2214 Erwin Road
Gift, John C.
Superintendent of Building Maintenance
811 Fifth Street

## ALUMNI AFFAIRS

Dukes, Charles Aubrey, A.B. Director
Garrard, Anne, A.B., A.M. Assistant Director

1023 Gloria Avenue
Tyree, William Allen, A.B.
Field Secretary, Duke University Loyalty Fund 610 Buchanan Boulevard
Smith, Cody Heber, A.B. Assistant to the Director

2115 W. Club Boulevard
Corbin, Charlotte, A.B. Assistant to the Director 403 W. Chapel Hill Street
Marshall, Roger, A.B. Alumni Editor

1829 Forest Road

## EDUCATIONAL ADMINISTRATION

Gross, Paul Magnus, B.S., A.M., Ph.D.
Vice-President in the Educational Division Hope Valley

## undergraduate colleges

Herring, Herbert James, A.B., A.M., Ll.D.
Dcan of Trinity College Myrtle Drive, West Campus
Brinkley, Roberta Florence, A.B., A.M., Ph.D.
Dean of the Woman's College
East Campus
Hall, William Holland, A.B., A.M., B.C.E., M.S.C.E.
Dean of the College of Engineering
922 Urban Avenue
Manchester, Alan Krebs, A.B., A.M., Ph.D.
Dean of Undergraduate Studies
Myrtle Drive, West Campus
*Smith, Mrs. Ruth Slack, A.B., A.M.
Dean of Undergraduate Instruction, Woman's College East Campus
Cox, Robert B., A.B., A.M.
Dean of Undergraduate Men
1107 Ninth Street
Weathersfoon, Everett Broadus, A.B.
125 Pinecrest Road Director of Admissions, Trinity College and Collcge of Engineering
Brinkley, William Lambreth, Jr., A.B.
Field Secretary, Undergraduate Admissions Duke University
Griffith, William Jackson, III, A.B.
Field Secrctary, Undergraduate Admissions Box 4416, Duke Station
Persons, Mrs. Elizabeth Anderson, A.B., A.M. Director of Admissions, Woman's College

612 Swift Avenue
Huckabee, Ellen Harris, A.B., A.M. 1507 W. Pettigrew Street Associate Dean of Undergraduate Instruction, Woman's College
Jenkins, Marianta Duncan, A.B., A.M., Ph.D. , R.D. 2, Guess Road Associatc Dean of Undcrgraduatc Instruction, Woman's Collcge
Slay, James Matthew, A.B., M.A.
Assistant Dean of Trinity College
1222 Arnette Avenue
Archie, William Council, A.B., A.M., Ph.D.
Assistant Dean in Charge of Freshmen, Trinity College and College of Engineering

2113 Sprunt Street
Dozier, John M., A.B.
Assistant Sccrctary of the University;
Assistant to the Vice-President in the Division of Public Rclations; Executive Secretary, University Scholarship Committee

2111 Ruffin Street
Weitz, Hevry, A.B., Ed.M., Ed.D.
Dircctor, Bureau of Testing and Guidance Duke University

GRADUATE AND PROFESSIONAL SCHOOLS
Gross, Paul M., B.S., A.M., Ph.D.
Dean of the Graduate School of Arts and Sciences
Hope Valley
Robert, Joseph Clarke, A.B., A.M., Ph.D.
1102 B Street Associate Dean of the Graduate School of Arts and Sciences

- Resigned, effective June 30, 1950.
*Bosley, Harold Augustus, A.B., B.D., Ph.D., D.D. Dean of the Divinity School

1020 Urban Avenue
Russell, Elbert, A.B., A.M., Ph.D., Litt.D. Dean Emeritus of the Divinity School

Duke University
McClain, Joseph A., Jr., B.A., LL.B., J.S.D., LL.D. Dean of the School of Lazw

Myrtle Drive
Davison, Wilburt Cornell, A.B., B.A., B.Sc., A.M., D.Sc., M.D., LL.D. Dean of the School of Medicine
Wilson, Florence K., R.N., B.A., M.A. Dean of the School of Nursing

Faculty Apartments
Korstian, Clarence Ferdinand, B.S.F., M.F., M.A., Ph.D. Dean of the School of Forestry

4 Sylvan Road
Clyde, Paul Hibbert, A.B., A.M., Ph.D.
Dircctor of the Summer Session
Cole Mill Road
Proctor, Arthur Marcus, A.B., A.M., Ph.D. Co-Dircctor of the Summer Session

Myrtle Drive
Bookhout, Cazlyn Green, A.B., A.M., Ph.D. Director, Duke Marine Laboratory

Duke University
Kritzler, Henry, B.A., M.S., Ph.D. Resident Investigator, Duke Marinc Laboratory

Beaufort, N. C.

Coleman, Margaret, A.B., A.M.
Recorder, Trinity College
918 Urban Avenue
*Ehlharit, George B., A.B., B.D. Registrar, Divinity School

Faculty Apartments
Inman, Sara Anne, B.S. Recorder, Graduate School of Arts and Sciences

818 Buchanan Boulevard
Kendall, Helen M., A.B.
Recorder and Secretary to the Faculty, The Dizinity School

Faculty Apartments
Seabolt, Louise, A.B., A.M. Recorder, Woman's College

Faculty Apartments

## INSTRUCTIONAL STAFF

This alphabetical list includes all members of the various faculties of the University. The date denotes the first year of service.
Acomb, Frances Dorothy, (1945) A.B., A.M., Ph.D. Assistant Professor of History
Adams, Donald Keith, (1931) A.B., M.A., Ph.D. Professor of Psychology

Faculty Apartments
Cornwallis Road
Addoms, Ruth Margery, (1930) B.A., M.A., Ph.D. Professor of Botany

* Resigned, cffeetive as of end of academic ycar, 1949-50.

Anderson, Lewis Edward, (1936) B.S., A.M., Ph.D. Associate Professor of Botany

2020 Sunset Avenue
Anderson, William Banks, (1930) A.B., M.D. Professor of Ophthalmology

502 E. Forest Hills Blvd.
Archie, William Council, (1946) A.B., A.M., Ph.D. Assistant Professor of Romance Languages

2113 Sprunt Street
Arena, Jay Morris, (1933), B.S., M.D. Assistant Professor of Pediatrics
Arnold, Ralph A., (1947) B.A., M.D.
2032 Club Boulevard Associate Professor of Otolaryngology and Ophthalmoloyy
Ashbrook, Arthur G., Jr., (1947) B.S., Ph.D. Assistant Professor of Economics

Faculty Apartment Annex
Atwell, Robert J., (1948) A.B., M.D. Instructor in Medicine University Apartments
Atwood, Theodore W., (1934) A.B., D.M.D. Associate in Dentistry

Devon Road
Aycock, Thomas Malcolm, (1937) B.S., M.S. Professor of Physical Education

University Apartments
Bailey, Joseph R., (1946) A.B., M.A., Ph.D. No. 11 Duke University Apts., Assistant Professor of Zoology Markham and Fifth Streets
Baird, Julian B., (1949) B.A., Major, U. S. Air Force Assistant Professor of Air Science Apt. 3, 802 Green Street
Baker, Horace Mitchell, Jr., (1948) A.B., M.D. Instructor in Surgery

2315 Wilson Street
Baker, Lenox Dial, (1937) M.D. Professor of Orthopaedic Surgery Hope Valley
Baldwin, Alice Mary, (1923) A.B., A.M., Plı.D., Ll.D. Professor Emeritus of History

Swift Avenue
*Banham, Katharine May, (1946) B.S., M.A., Ph.D. Associate Professor of Psychology 115 North Dillard Street
Barefoot, Sherwood W., (1946) B.S., M. D. Instructor in Dermatology and Syphilology Duke Hospital
Bason, Betty, (1949) R.N., B.S. Instructor in Medical Nursing 2100 Erwin Road
Baum, Paull Franklin, (1922) A.B., A.M., Ph.D. Professor of English
Baylin, George Jay, (1939) A.B., M. D. 2260 Cranford Road Associate Professor of Radiology and Associate in Anatomy
Beach, William Waldo, (1946) A.B., B.D., Ph.D. Associate Professor of Christian Ethics 100 Vineyard Street
Beal, James Allen, (1939) B.S., M.S., Ph.D. Professor of Forest Entomology

2232 Cranford Road
Beard, Dorothy Waters, Mrs., (1938) R.N. Research Associate in Surgery

Hillsboro, N. C.
Beard, Joseph W., (1937) B.S., M.D.
Professor of Surgery in Charge of Experimental Surgery; Associate Professor of Virology

Hillsboro, N. C.

[^33]Bennett, Robert L., (1946) M.D.
Lecturer in Physical Medicine
Duke Hospital
Bernheim, Frederick, (1930) A.B., Ph.D.
Professor of Pharmacology
Woodridge Drive, Rockwood
Bernheim, Mary Lilias Christian, Mrs., (1930) B.A., M.A., Ph.D.
Associate Professor of Biochemistry and Nutrition
Woodridge Drive, Rockwood
Berry, Edward Willard, (1936) A.B., Ph.D.
Professor of Geology
1003 N. Gregson Street
Bevington, Helen Smith, Mrs., (1943) Ph.B., M.A.
Assistant Professor of English
Guess Road
Bevington, Merle Mowbray, (1942) A.B., M.A., Ph.D. Associate Professor of English

Guess Road
Bigelow, Lucius Aurelius, (1929) S.B., Ph.D. Professor of Chemistry

131 Pinecrest Road
Bird, Harold Crusius, (1926) Ph.B., C.E.
Professor of Civil Engineering
1209 Virginia Avenue
Black, Martin Lee, Jr., (1930) A.B., M.B.A., C.P.A. Professor of Accounting

135 Pinecrest Road
Blackburn, William Maxwell, (1926) A.B., B.A., M.A., Ph.D.
Associate Professor of English
901 Fifth Street
*Black-Schaffer, Bernard, (1945) B.Sc., M.D. Associate Professor of Pathology

Piedmont Apartments
Blake, Robert L., (1949)
Instructor in Medical Art and Illustration 609 Ruby Street
$\dagger$ Blomquist, Hugo Leander, (1920) B.S., Ph.D.
Professor of Botany
922 Demerius Street
Blumenthal, Edna, (1950) B.S.
Lecturer in Physical Therapy
1507 W. Pettigrew Street
Boardman, Wanda Slaybaugh, (1947) R.N., A.B., B.S. Instructor in Medical Nursing

819 Third Street
Bolich, William Bryan, (1927) A.B., B.A. (Juris.), M.A., B.C.L. Professor of Law

Hope Valley
Bolmeier, Edward C., (1948) A.B., M.A., Ph.D. Associate Professor of Education

Faculty Apartments
Bond, George F., (1949) M.D.
Instructor in General Practice of Medicine Duke Hospital
Bone, Allan Hadlev, (1944) B.A., M.M. Assistant Professor of Music 2314 Club Boulevard

Bone, Frank C., (1948) A.B., M.D. Instructor in Medicine

1408 Duke University Road
Bookhout, Cazlyn Green, (1935) A.B., A.M., Ph.D. Associate Professor of Zoology

1307 Alabama Avenue
Bookhout, Elizabeth Circle, Mrs., (1932-43; 1945) A.B., M.S.
Associate Professor of Physical Education 1307 Alabama Avenue

* Absent on leave, 1950-51.
$\dagger$ Absent on sabbatical leave, second semester, 1950-51.
*Bosley, Harold Augustus, (1947). A.B., B.D., Ph.D., D.D. Professor of Philosophy of Religion and Dean of Divinity School

1020 Urban Avenue
Bowman, Francis E., (1945) A.B., M.A., Ph.D. Associate Professor of English

1503 Alabama Avenue
Boyce, Benjamin, (1950) B.A., M.A., Ph.D. Professor of English

Duke University
Brackett, Ralph Anders, (1949) B.S., Lieutenant, U. S. Navy Assistant Professor of Naval Science 105 Fifth Avenue
Bradley, David Gilbert, (1949) A.B., B.D., M.A., Ph.D. Assistant Professor of Religion

405 Carver Street
Bradsher, Charles Kilgo, (1939) A.B., M.A., Ph.D. Associate Professor of Chemistry 2318 Englewood Avenue
Bradway, John Saeger, (1931) A.B., A.M., LL.B. Professor of Law

2621 Stuart Drive
Brandis, Royall N., (1949) B.A., M.A. Instructor in Economics

814 Green Street
Brewer, J. Street, (1949) M.D. Instructor in General Practice of Medicine Duke Hospital
Brewer, Robert Palmer, (1949) A.B., Lieutenant, U. S. Navy Assistant Professor of Naval Science 3030 University Drive
Brinkley, Roberta Florence, (1947) A.B., A.M., Ph.D. Professor of English and Dean of the Woman's College East Campus
Broadbent, Thomas R., (1950) A.B., M.D. Instructor in Surgery

Duke Hospital
Broome, Robert A., Jr., (1948) M.D. Instructor in Medicine

University Apartments
Brown, Chandler Wilcox, (1947) B.S. in C.E. Instructor in Civil Engineering

1423 Woodland Drive
$\dagger$ Brown, Frances, (1931) A.B., Ph.D. Associate Professor of Chemistry

205 Jones Street
Brown, Ivan W., Jr., (1940) A.B., B.S., M.D. Associate in Surgery

2314 Woodrow Street
Brown, W. G., (1947) A.B. Instructor in Preventive Medicine and Public Health Duke Hospital
Brownlee, William H., (1948) A.B., Th.B., Th.M., Ph.D. Assistant Professor of Old Testament

1014 Edith Street
Brucer, Marshall N., (1950) Lecturer in Physiology Duke Hospital

Bryant, Jeanette E., (1949) R.N., B.S. Instructor in Surgical Nursing

2204 Erwin Road
Bryson, Edwin Constant, (1931) LL.B.
Associate Professor of Law, and Instructor in Hospital Administration

1023 Sycamore Street
Bryson, Thaddeus Dillard, (1928) LL.D. Professor Emeritus of Law

Duke University

* Resigned, effective as of end of academic year, 1949-50.
$\dagger$ Absent on sabbatical leave, second semester, 1950-51.

Bugg, Everett I., Jr., (1947) B.S., M.D. Instructor in Orthopaedics

1544 Hermitage Court
Callaway, Jasper Lamar, (1937) B.S., M.D. Professor of Dermatology and Syphilology

828 Anderson Street
Cameron, Edmund McCullough, (1926) A.B.
Director of Physical Education and Athletics, and Assistant Coach of Football

Hope Valley
*Canine, William L., Jr., (1947) A.B., M.A. No. 7 Duke University Apts., Instructor in English Markham and Fifth Streets
Cannon, James, III, (1919) A.B., A.M., Th.B., Th.M., D.D. Ivey Professor of History of Religion and Missions 803 Second Street
Carlitz, Leonard, (1932) A.B., A.M., Ph.D. Professor of Mathematics

2303 Cranford Road
Carpenter, David Williams, (1929) A.B., A.M., Ph.D. Professor of Physics

137 Pinecrest Road
Carr, John Winder, Jr., (1926) A.B., A.M., Ph.D. Professor of Education

926 Monmouth Avenue
Carroll, Eber Malcolm, (1923) A.B., A.M., Ph.D. Professor of History

University Apartments
Carroll, R. Charman, (1943) R.N., A.B., M.D. Associate in Neuropsychiatry

Duke Hospital
Carson, Kyle, (1949) R.N., A.B. Instructor in Medical Nursing Baker House
Carter, Bayard, (1931) A.B., B.A., M.A., M.D. Professor of Obstetrics and Gynecology

2111 Myrtle Drive
Carter, Ruth, (1949) R.N., B.S. Instrucior in Surgical Nursing

2100 Erwin Road
Cassel, Chester, (1949) B.S., M.D. Instructor in Medicine

1203 Ruffin Street
Castellano, Helen, Mrs., (1947) A.B., A.M. Instructor in Romance Languages

805 Third Street
Castellano, Juan R., (1947) B.A., Ph.D. Associate Professor of Romance Languages

805 Third Street
Cheek, Roma Sawyer, Mrs., (1947) A.B., M.A., Ph.D. Instructor in Political Science

908 Buchanan Boulevard
Childs, Benjamin Guy, (1924) B.A., M.A. Professor of Education
Christ, Robert W., (1948) A.B., M.S. Assistant Librarian

1019 West Markham Avenue
1403 Watts Street
Church, Margaret, (1946) A.B., A.M., Ph.D. Instructor in English

Cole Mill Road
Clark, Elon Henry, (1934) Associate Professor of Medical Art and Illustration 1300 Oakland Avenue
Clark, Kenneth Willis, (1931) A.B., B.D., Ph.D. Professor of New Testament

1308 Markham Avenue
Clark, Lelia R., (1949) R.N., B.S., M.A. Assistant Professor of Nursing Education

Duke Hospital

[^34]Cleland, James T., (1945) M.A., B.D., S.T.M. Professor of Homiletics

2117 Myrtle Drive
Clyde, Paul Hibbert, (1937) A.B., A.M., Ph.D. Professor of History

Cole Mill Road
Cobb, Clarence H., (1934) Ph.G. Instructor in Hospital Administration $\quad 402$ Morehead Avenue
Cohen, Louis David, (1946) B.A., M.A., Ph.D. Assistant Professor of Psychology, and Assistant Professor of Neuropsychiatry 913 Monmouth Avenue
*Coile, Theodore Stanley, (1935) B.S.F., M.F., Ph.D. Professor of Forest Soils

Hillsboro Road
Cole, Robert Taylor, (1935) A.B., A.M., Ph.D. Professor of Political Science

7 Sylvan Road
Collins, John P., (1948) A.B., M.D. Instructor in Surgery

812 Green Street
Colton, Joel G., (1947) B.A., M.A., Ph.D. Instructor in History

University Apartments
Conant, Norman Francis, (1935) B.S., A.M., Ph.D. Old Cornwallis Road Professor of Mycology and Associate Professor of Bacteriology
Connar, Richard G., (1950) A.B., M.D. Instructor in Surgery Alastair Apartments
Connery, Robert Howe, (1949) B.A., M.A., Ph.D. Professor of Political Science

2017 Sprunt Street
Cook, Daniel Sylvester, (1950) B.A., M.A. Instructor in English Duke University
Cooper, Albert Derwin, (1934) A.B., M.D. Instructor in Medicine

1006 Dacian Avenue
Cordle, Thomas H., (1950) B.A., M.A. Instructor in Romance Languages

Duke University
Costner, Alfred N., (1950) B.S., M.D. Instructor in Ophthalmology

Duke Hospital
Cowper, Frederick Augustus Grant, (1918) A.B., A.M., Ph.D. Professor of Romance Languages

1017 Dacian Avenue
Cox, Albert Wesley, (1948) B.S., Lieutenant, U. S. Navy Assistant Professor of Naval Science

2302 Erwin Road
Crawley, Hattie Mildred, (1946) R.N., B.S. Instructor in Nursing Arts
Creadick, Robert Nowell, (1946) A.B., M.D. Assistant Professor of Obstetrics and Gynecology

2226 Elba Street
Crum, Mason, (1930) A.B., Ph.D. Associate Professor of Biblical Literature

912 Anderson Street
Curtiss, John Shelton, (1945) A.B., A.M., Ph.D. Associate Professor of History

718 Vickers Avenue
Cushman, Robert E., (1945) A.B., B.D., Ph.D. Professor of Systematic Theology

130 Pinecrest Road
Cuyler, W. Kenneth, (1938) B.A., M.A., Ph.D. Rescarch Instructor in Obstetrics and Gynecologic Laboratory Technics

Pickett Road

- Absent on sabbatical leave. second semester, 1949-50.

Dai, Bingham, (1943) A.B., M.A., Ph.D. 1010 Monmouth Avenue Lecturer in Psychiatry; Professor of Psychology (Part-time)
Davies, William David, (1950) B.A., B.D., M.A., D.D.
Professor of Biblical Theology
Duke University
Davis, C. M., (1950)
Instructor in Neurology Duke Hospital
Davis, Gifford, (1930) A.B., A.M., Ph.D. Associate Professor of Romance Languages

2248 Cranford Road
Davison, Atala T. S., (1942) A.B., M.D. Instructor in Pediatrics

Hope Valley
Davison, Wilbert Cornell, (1927) A.B., B.A., B.Sc., M.A., M.D., D.Sc., LL.D. Professor of Pediatrics and Dean of the School of Medicine Hope Valley
Dees, John Essary, (1939) B.S., M.D. Associate Professor of Urology
Dees, Susan Coons, Mrs., (1939) A.B., M.S., M.D. Associate Professor of Pediatrics and Allergy
Demorest, Jean-Jacques, (1948) B.A., M.A., Ph.D. Assistant Professor of Romance Languages
Deturk, William, (1949) A.B., A.M., M.D., Ph.D. Assistant Professor of Pharmacology

413 Carolina Circle
de Vyver, Frank Traver, (1935) A.B., A.M., Ph.D. Professor of Economics

413 Carolina Circle
Brookside Apts., 821 Demerius Street

1211 Ruffin Street
8 Sylvan Road
Dewey, Donald, (1950) Assistant Professor of Economics

Duke University
Dick, Macdonald, (1932) B.A., M.A., M.D. Assistant Professor of Physiology and Pharmacology and Associate in Medicine

Hope Valley Road
Dickens, Robert L., (1949) B.S. Instructor in Accounting
Dicks, Russell L., (1948) A.B., B.D., D.D. Associate Professor of Pastoral Care

Duke University
*Dort, Wakefield, (1948) B.S., M.S. Instructor in Geology
$\dagger$ Dow, Marie, Mme., (1934) L. ès L., M.A. Instructor in Romance Languages
$\dagger$ Dow, Neal, (1934) A.B., M.A., Ph.D. Assistant Professor of Romance Languages
Dressel, Francis George, (1929) B.S., M.S., Ph.D. Associate Professor of Mathematics

309 Francis Street
Duke, Kenneth Lindsay, (1940) A.B., Ph.D. Associate Professor of Anatomy

701 Club Boulevard
Dunham, Bradford, (1950) A.B., Ph.D. Instructor in Philosophy
Eadie, George Sharp, (1930) M.A., M.B., Ph.D. Professor of Physiology and Pharmacology
Eagle, Watt Weems, (1930) A.B., M.D. Professor of Otolaryngology

Duke University
Hope Valley
804 Anderson Street

* Resigned, effective August 31, 1950.
$\dagger$ Absent on leave, 1950-51.

Earle, Ralph, Jr., (1948) B.S., Captain, U. S. Navy Professor of Naval Science 2101 Myrtle Drive
Easley, Eleanor Beamer, Mrs., (1934) B.A., M.A., M.D. Associate in Obstetrics and Gynecology

Guess Road
Easley, Howard, (1930) A.B., M.A., Ph.D. Associate Professor of Education

Guess Road
Eastman, Harry Claude MacColl, (1949) B.A., M.A. Instructor in Economics

12 Alastair Court
Eckard, Barbara, Mrs., (1950) Instructor in Pediatric Nursing

Duke Hospital
Edwards, Charles William, (1898) A.B., A.M., M.S. Professor Emeritus of Physics 406 Buchanan Boulevard
Egerton, Frank Nicholas, (1945) A.B., A.M., E.E. Assistant Professor of Electrical Engineering 411 N. Gregson Street
Elliott, William Whitfield, (1925) B.A., M.A., Ph.D. Professor of Mathematics

Alastair Apartments
Ellis, Leon H., (1947) A.B., LL.B., Ph.D.
Lecturer in Political Science
2428 Perkins Road
Engel, Frank Libman, (1947) A.B., M.D. Assistant Professor of Medicine and Instructor in Physiology
Epperson, Jesse Harrison, (1930) B.S.
2111 Pershing Street Instructor in Preventive Medicine and Public Health 1601 Hermitage Court

Estill, Mary Ellen, (1949) B.A., Ph.D. Instructor in Mathematics

Duke University
Everett, John Wendell, (1932) A.B., Ph.D. Professor of Anatomy

2605 University Drive
Everett, Robinson O., (1950) A.B., LL.B. Assistant Professor of Law

119 N. Dillard Street
Fein, John M., (1950) B.A., M.A., Ph.D. Assistant Professor of Romance Languages Duke University
Felts, James Rone, Jr., (1949) Instructor in Hospital Administration

Charlotte, N. C.
Ferguson, Arthur Bowles. (1939) A.B., Ph.D. Assistant Professor of History

209 Woodridge Drive
Ferguson, George Burton, (1937) M.Sc. (Med.), M.D. Associate in Bronchoscopy Dover Road, Hope Valley
Fetters, James Carl, (1949) B.A., Captain, U. S. Marine Corps Assistant Professor of Naval Science

2403 University Drive
Fisher, Marshall L., (1949) B.S., M.D. Associate in Neuropsychiatry
Fitzgerald, William Stone, (1935) A.B., A.M. Instructor Emeritus of English

603 Watts Street
Fleming, Julia, (1949) R.N., B.S. Instructor in Psychiatric Nursing
Fleming, William J., (1949) A.B., M.D. Instructor in Medicine

Duke Hospital
Randolph Road
Flower, Arthur H., Jr., (1948) A.B., M.D. Associate in Dermatology and Syphilology

Roanoke, Va.

2617 Hillsboro Road

Foerster, Norman, (1948) A.B., A.M., Litt.D.
Visiting Professor in English (Part-time)
Chapel Hill, N. C.
Forbus, Wiley Davis, (1930) A.B., M.D. Professor of Pathology

Hope Valley
Fox, Herbert Junius, (1940) M.D.
Associate in Medicine
France, Dorothy R., (1949) A.B., M.S. Instructor in Physical Education

101 Faculty Apartments
Fulton, Lewis McLeod, Jr., (1949) B.S., A.M., Ph.D. Instructor in Mathematics

1114 Oval Drive
Gardner, Clarence Ellsworth, Jr., (1930) A.B., M.D. Professor of Surgery

Hope Valley
*Garrett, James Richard, (1947) B.S., A.M., Ph.D. Visiting Instructor in Mathematics
*Gault, Luclee D., Mrs., (1947) B.A., M.A. Instructor in Romance Languages

305 Northwood Circle Greensboro Road, Chapel Hill, N. C.
Gergen. John Jay. (1936) A.B., A.M., Ph.D. Professor of Mathematics

2803 Nation Avenue
Gilbert, Allan, (1920) B.A., A.M., Ph.D. Professor of English

516 Carolina Circle
Gilbert, Katharine Everett, Mrs., (1930) A.B., A.M., Ph.D., Litt.D. Professor of Philosophy

516 Carolina Circle
Ginn, Stephen A., (1950) A.B., M.D. Instructor in Ncuropsychiatry 326 Clark Street
Givan, Walker F.. (1947) B.A., M.A., Ph.D. Instructor in History

1021 Minerva Avenue
Glenn. John C., (1949) M.D. Assistant Professor of Radiology 2204 Pershing Street
Goffard, Sinney James, (1947) A.B., M.A., Ph.D. Assistant Professor of Psychology

1003 Lamond Avenue
Gohdes, Clarence, (1930) A.B., A.M., Ph.D. Professor of American Literature

2614 Stuart Drive
Goldner. J. Leonard, (1950) A.B., M.D. Associate in Orthopaedics

Duke Hospital
Goldsmith, Jewett, (1949) M.D. Associate in Neuropsychiatry

Duke Hospital
Gordy, Walter, (1946) A.B., M.A., Ph.D. Professor of Physics

233 Forest Wood Drive
Graham, William Alexander, (1939) A.B., M.D. Instructor in Obstetrics and Gynecology

2247 Cranford Road
Gray, Irving Emery, (1930) B.S., M.S., Ph.D. Professor of Zoology

124 Pinecrest Road
Greenhill, Maurice H., (1940) A.B., M.D. Associate Professor of Neuropsychiatry and Associate Professor of Public Health and Preventive Medicine Hope Valley
Greuling, Eugene, (1948) B.S., Ph.D. Assistant Professor of Physics

3409 Chapel Hill Road

* Resigned, cffective $\Lambda$ ugust 31, 1950.

Grimson, Keith S., (1942) B.A., B.S., M.D.
Professor of Surgery
Hope Valley
Gross, Paul Magnus, (1919) B.S., A.M., Ph.D. William Howell Pegram Professor of Chemistry and Dean of Graduate School of Arts and Sciences

Hope Valley
Grout, Julia Rebecca, (1924) A.B., M.S. Professor of Physical Education, Woman's College

804 Fourth Street
Gustafson, Robert Bergstron, (1949) B.S., Lieutenant, U. S. Navy Assistant Professor of Naval Science

628 W. Club Boulevard
Haines, Howard N., (1943) B.S. Assistant Professor of General Engineering 2307 Club Boulevard
Hall, Frank Gregory, (1926) A.B., A.M., Ph.D. Professor of Physiology

122 Pinecrest Road
*Hall, Louise, (1931) B.A., S.B. in Architecture, Brevet d'Art de la Sorbonne Associate Professor of Architecture

Box 6636, College Station
Hall, William Holland, (1915) A.B., A.M., B.C.E., M.S.C.E.
Professor of Engineering and Dean of the College of Engineering
922 Urban Avenue
Hallowell, John Hamilton, (1942) A.B., A.M., Ph.D. Professor of Political Science 2709 Augusta Drive
Hamblen, Edwin Crowell, (1931) B.S., M.D. Associate Professor of Obstetrics and Gynecology, and Professor of Endocrinology 810 Forest Hills Boulevard
Hamilton, William Baskerville, Jr., (1936) A.B., A.M., Ph.D. Associate Professor of History

2256 Cranford Road
Handler, Philip, (1939) B.S., M.S., Ph.D. Professor of Biochemistry and Nutrition 2307 Sprunt Street
Hanna, Frank A., (1948) B.A., Ph.M., Ph.D. Associate Professor of Economics

2239 Cranford Road
Hansen-Prüss, Oscar Carl Edvard, (1930) A.B., M.D. Professor of Medicine in Charge of Clinical Microscopy

3 Surry Road, Hope Valley
Hanson, Earl, (1946) A.B., A.M., Ph.D. Powe Apartments, Assistant Professor of Political Science

Watts Street
$\dagger$ Hardy, William Marion, (1946) B.S. in M.E. Instructor in Mechanical Engineering

Chapel Hill, N. C.
Hargitt, George Thomas, (1930) Ph.B., A.M., Ph.D., Sc.D. Professor of Zoology

811 Watts Street
Harrar, Elwood Scott, (1936) B.S., M.S., Ph.D. Professor of Wood Technology

2228 Cranford Road
Harris, George P., (1949) A.B. Instructor in Hospital Administration Charlotte, N. C.
Harris, Jerome Sylvan, (1936) A.B., M.D. Professor of Pediatrics

1007 Rosehill Avenue
Hart, Deryl, (1930) A.B., A.M., M.D.
Professor of Surgery Duke University Road and Highway 751
*Absent on sabbatical leave, 1950-51.
$\dagger$ Resigned, effective August 31, 1950.

Hart, Hornell Norris, (1938) A.B., M.A., Ph.D.
Professor of Sociology
Cranford Road
Harwell, George Corbin, (1935; 1947) A.B., A.M., Ph.D.
Assistant Professor of English Erwin Apartments
Hatley, Charles Cleveland, (1917) A.B., A.M., Ph.D. Professor of Physics

708 Buchanan Boulevard
*Hatley, Marvin Thomas, Jr., (1946) B.S. in E.E.
Instructor in Electrical Engineering
Duke University
Hauser, Charles Roy, (1929) B.S., M.S., Ph.D. Professor of Chemistry

1020 Rosehill Avenue
Helmick, Caroline E., (1949) B.A., M.D.
Associate in Medicine and Associate in Preventive Medicine and Public Health

Duke University
Hendrix, James Paisley, (1938) B.S., M.A., M.D.
Assistant Professor of Medicine and Therapeutics
144 Pinecrest Road
*Herbert, Bueford Gilbert, (1949) LL.B., LL.M. Acting Assistant Professor of Law

Guess Road
Heron, Stephen Duncan, Jr., (1950) B.S., M.A. Instructor in Geology

Duke University
Hetherington, Duncan Charteris, (1930) A.B., M.A., Ph.D., M.D. Professor of Anatomy

University Apartments
Hiatt, Joseph S., (1949) A.B., M.D. Instructor in Medicine

McCain, N. C.
Hickam, John Bamber, (1947) A.B., M.D. Assistant Professor of Medicine

University Apartments
Hickman, Franklin Simpson, (1927) A.B., S.T.B., A.M., Ph.D.
Professor of Preaching and the Psychology of Religion
Hickson, Arthur Owen, (1929) A.B., A.M., Ph.D. Assistant Professor of Mathematics

921 Markham Avenue
-

Hill, Douglas, (1931) A.B., M.A., Ph.D. Associate Professor of Chemistry

2712 Legion Avenue

Hitch, Joseph M., (1946) A.B., M.S., M.D. Associate in Dermatology and Syphilology
Hobbs, Marcus Edwin, (1935) A.B., A.M., Ph.D. Associate Professor of Chemistry

115 Pinecrest Road
Hofen, John Edward, (1949) A.B., A.M. Instructor in German
Hohman, Leslie Benjamin, (1946) A.B., M.D. Professor of Neuropsychiatry

Emilie Apts., Bragtown
616 Ruby Street
Holland, Bernard C., (1948) B.S., M.D. Instructor in Medicine

713 Anderson Street
Holland, Ray Walter, (1947) B.S. in M.E. Instructor in Mechanical Engineering

600 Colgate Street
Holley, Irving Brinton, Jr., (1947) B.A., M.A., Ph.D. Instructor in History

No. 6 Duke University Apts., Markham and Fifth Streets

[^35]Holton, Frances, (1947) B.S., M.A.
Assistant Professor of Physical Education 407 Erwin Apartments
*Hoover, Calvin Bryce, (1925) A.B., Ph.D., Litt.D.
Professor of Economics 1702 Duke University Road
Horack, Hugo Claude, (1930) Ph.B., LL.B., LL.D. Professor Emeritus of Laze

Duke University
Horn, Edward C., (1946) B.S., A.M., Ph.D. Assistant Professor of Zoology

2509 Cascadilla Street
Horn, S. Frank, (1950) Instructor in Dermatology and Syphilology

Duke Hospital
*Hubbell, Jay Broadus, (1927) A.B., A.M., Ph.D. Professor of American Literature

121 Pinecrest Road
Humphrey, Don Dougan, (1945) A.B., Ph.D. Professor of Economics

2802 Legion Avenue
Hunter, Wanda Sanborn, Mrs., (1947) A.B., M.S., Ph.D.
Associate Professor of Zoology 202 Faculty Apartments
Hunting, Robert S., (1949) B.A., M.A. Instructor in English

Route 2. St. Mary's Road
Hyldburg, Carl A., (1949) A.B., LL.B. Instructor in Economics

13 Alastair Court
Ingles, Thelma, (1950) A.B., R.N., M.A. Assistant Director, Division of Nursing Education Duke University
Irving, William Henry, (1936) B.A., B.A. (Oxon.), M.A., Ph.D.
Professor of English (1), 2707 Legion Avenue
Irwin, Charles Edwin, (1946) M.D. Lecturer in Orthopaedic Surgery Duke Hospital
Jacobs, Julian E., (1947) M.D. Lecturer in Orthopaedics Duke Hospital
Jeffers, Frances C., (1947) A.B., A.M. Assistant Professor of Nursing Education

Baker House
Jenkins, Marianna Duncan, (1948) A.B., A.M., Ph.D. Assistant Professor of Art
Jensen, Howard Eikenberry, (1931) A.B., A.M., B.D., Ph.D. Professor of Sociology

143 Pinecrest Road
Joerg, Frederick Charles, (1947) B.S., M.B.A. Assistant Professor of Economics

Mordecai House, East Campus
Johnson, Amos N., (1949) M.D. Instructor in General Practice of Medicine Duke University
Johnson, Mychyle W., (1937) A.B., Ph.D. Associate Professor of Zoology

106 Turrentine Road
$\dagger$ Jones, Barney Lee, (1948) A.B., B.D. Instructor in Religion

820 Demerius Street
Jones, Carl C., Jr., (1950) B.S., M.D.
Instructor in Medicine Duke Hospital
Jones, Claudius Parks, (1950) Technical Research Instructor in Obstetrics and Gynecology Cole Road

[^36]Jordan, Archibald Currie, (1925) A.B., A.M. Assistant Professor of English

147 Pinecrest Road
Jordan, Brady Rimbey, (1927) Litt.B., Ph.D. Professor of Romance Languages

117 Pinecrest Road
Kaiser, Helen Louise, (1943) R.P.T. Associate in Physical Therapy, in charge of Division of Physical Therapy

804 Fourth Street
Keever, Catherine, (1950) A.B., M.A., Ph.D. Visiting Instructor in Botany

Duke University
Kempner, Walter, (1934) M.D. Associate Professor of Medicine

1505 Virginia Avenue
611 Watts Street
Kenyon, Van Leslie, Jr., (1945) B.S.
Assistant Professor of Mechanical Engineering
Route 3, Hillsboro, N. C.
Kerby, Grace P., (1950) B.S., M.D. Instructor in Medicine

Duke Hospital
Kernodle, G. Wallace, (1949) A.B., M.D. Instructor in Pediatrics

Duke Hospital
Kinross-Wright, Vernon, (1950) B.A., M.R.C.S., L.R.C.P., B.M.B.S., D.P.M. Associate in Neuropsychiatry

Duke Hospital
Klenz, William, (1947) A.B., M.A. Assistant Professor of Music 1216 B Street
Koch, Sigmund, (1942-1947; 1948) A.B., A.M., Ph.D. Associate Professor of Psychology

2921 Horton Road
Korstian, Clarence Ferdinand, (1930) BS.F., M.F., M.A., Ph.D.
Professor of Silviculture and Dean of the School of Foresty 4 Sylvan Road
Kramer, Paul Jackson, (1931) A.B., M.Sc., Ph.D. Professor of Botany

2251 Cranford Road
Kramer, Robert, (1947) A.B., LL.B. Professor of Law

Guess Road
Kraybill, Edward K., (1939) B.S. in E.E., M.S. in E.E. Assistant Professor of Electrical Engineering

900 Dacian Avenue
Krummel, Charles Albert, (1922) Ph.B., Ph.M., Ph.D. Professor Emeritus of German

2118 Englewood Avenue
Kuder, G. Frederick, (1948) A.B., M.A., Ph.D. Professor of Psychology

Perkins Road
Kunkle, E. Charles, (1948) B.A., M.D. Assistant Professor of Medicine 1302 Oakland Avenue
LaBarre, Weston, (1946) A.B., Ph.D. Associate Professor of Anthropology

1311 Alabama Avenue
Landon, Charles Earl, (1926) A.B., A.M., Ph.D. Associate Professor of Economics

1514 Edgevale Road
Lanning, John Tate, (1927) A.B., A.M., Ph.D. Professor of History

Hope Valley
Laprade, William Thomas, (1909) A.B., Ph.D. Professor of History

1108 Monmouth Avenue * Resigned, effective August 31, 1950.

Larsh, John E., Jr., (1943) A.B., M.S., Sc.D. Associate in Parasitology

Duke Hospital
Latty, Elvin Remus, (1937) B.S., J.D., J.Sc.D. Professor of Law

Hope Valley
Lavin, Natalie L., (1949) R.N. Instructor in Pediatric Nursing

1010 First Street
Leary, Lewis, (1941) B.S., A.M., Ph.D. Professor of American Literature

2106 Woodrow Street
*Lee, Paul R., (1948) B.A., M.A. Instructor in English

119 Epworth Inn
$\dagger$ Lemert, Ben Franklin, (1930) B.Sc. in Bus. Admin., M.A., Ph.D.
Associate Professor of Economic Geography
123 Pinecrest Road
$\ddagger$ Leonard, Henry Siggins, (1937) A.B., A.M., Ph.D. Associate Professor of Philosophy

107 Pinecrest Road
Lewis, Harold W., (1946) B.S., M.A. Assistant Professor of Physics 1005 Carolina Avenue
Lewis, Modena, (1933) B.S., M.A. 407 Erwin Apartments Associate Professor of Physical Education and Dance
Lewis, Ralph Elton, (1941) B.S. in M.E., M.S. in M.E. Assistant Professor of General Engineering 1401 Alabama Avenue
Livengood, Charles H., Jr., (1946) A.B., LL.B. Associate Professor of Law

Hope Valley
Llerena, Mario, (1948) B.A., Doctor en Filosofía y Letras (Havana) Instructor in Romance Languages

Duke University Apts., Markham and Fifth Streets
Löwenbach, Hans, (1940) M.D. Associate Professor of Neuropsychiatry and Physiology Apex Road
London, Arthur Hill, Jr., (1932) B.S., M.D. Associate in Pediatrics. Corner Shepherd and Wells Streets
London, Frederick, (1938) Ph.D., Docteur ès Sciences of the University of Paris Professor of Theoretical Chemistry 1508 Oakland Avenue
Lovell, William F., (1950) A.B., M.D. Instructor in Medicine

Duke Hospital
Lowndes, Charles Lucien Baker, (1934) A.B., LL.B., S.J.D.
Professor of Law 2016 Club Boulevard
Lundholm, Helge, (1930) Fil. Kand., Fil. Lic., Pli.D. Professor of Psychology

803 Second Street
**Lyman, Richard Sherman, (1940) B.A., M.D. Professor of Neuropsychiatry

812 Anderson Street
McBryde, Angus, (1931) B.S., M.D. Associate Professor of Pediatrics

410 Forest Hills Blvd., East
McCormic, Mary T., (1950) Visiting Instructor in Physical Education Duke University
McCracken, Joseph, (1946) A.B., M.D. Instructor in Medicine

126 Pinecrest Road

* Resigned, effective August 31, 1950. $\dagger$ Absent on sabbatical leave, first semester, 1950-51. $\not{ }_{*}^{\ddagger}$ Resigned, September 1, 1949.
** Absent on leave, 1950.

McCrea, Forrest Draper, (1930) B.S., M.S., Ph.D. Associate Professor of Physiology and Pharmacology 1023 Demerius Street
McDermott, Malcolm, (1930) A.B., LL.B.
Professor of Law Orange County
McHugr, Gelolo, (1946) A.B., A.M., Ph.D. Assistant Professor of Psychology Erwin Road
McKenzie, Lionel Wilfred, Jr., (1948) A.B., M.A., B.Litt. Assistant Professor of Economics 18 Alastair Court
McLarty, Furman Gordon, (1933) A.B., B.A., A.M., Ph.D. Associate Professor of Philosophy

1511 Page Street
MacIntosh, Fred, (1950) A.B., M.A. Visiting Instructor in English Duke University
*MacMillan, Louis deRosset, (1947) A.B., C.P.A. Associate Professor of Accounting

Duke University
McPherson, S.D., Jr., (1949) B.S., M.D. Instructor in Ophthalmology 1520 Hermitage Court
Maggs, Douglas Blount, (1930) A.B., J.D., S.J.D. Professor of Law

Hope Valley
Manchester, Alan Krebs, (1929) A.B., A.M., Ph.D. Professor of History Myrtle Drive, West Campus
Maness, Paul F., (1949) A.B., M.D. Instructor in Pediatrics Duke Hospital
Manning, Isaac Hall, Jr., (1939) A.B., M.D. Associate in Medicine

2311 Wilson Street
Mansfield, Lawrence, (1949) B.S., A.B., M.A. Instructor in Economics

315 Greenwood Drive
Margolis, George, (1940) A.B., M.D.
Associate in Pathology
2308 Pratt Street
Markee, Joseph Eldridge, (1943) B.S., Ph.D. Professor of Anatomy
Markman, Sidney D., (1947) A.B., M.A., Ph.D. No. 10 Duke University Assistant Professor of Art Apts., Markham and Fifth Streets
Martin, Elsie W., Mrs., (1930) A.B., M.S.
Professor of Dietetics 206 Faculty Apartments
Martin, Ruth Campbell, (1944) B.A., M.D. 113 Pinecrest Road Assistant Professor of Surgery in charge of Anesthesiology

Martin, Samuel P., (1949) M.D.
Associate in Medicine and Instructor in Bacteriology 113 Pinecrest Road
$\dagger$ Martin, Vance Bacon, (1949) B.S. in E.E:
Visiting Instructor in Electrical Engineering
Hillsboro, N. C.
$\dagger$ Mason, Carolyn P., (1949) B.S.
Instructor in Physical Education
101 Faculty Apartments
Massey, Lucy E., (1949) R.N., A.B., M.A.
Assistant Professor of Public Health Nursing
Baker House
Matthews, A. Minetta, (1947) B.A., M.A.
Instructor in Romance Languages
Faculty Apartments

* Died, April 10, 1950.
$\dagger$ Resigned, effective August 31, 1950.

Matthias, Anne Powell, Mrs., (1950) Visiting Instructor in Physical Education Duke University

Maxwell, William Cary, (1930) A.B., A.M., Ph.D.
Assistant Professor of German
142 Pinecrest Road
Meirr, Otto, Jr., (1934) B.S. in E.E., M.S., E.E. Associate Professor of Electrical Engineering

916 Monmouth Avenue
Menefee, Elifah Eugene, Jr., (1940) B.S., M.D. Assistant Professor of Medicine

2207 Cranford Road
Michalak, M. Victor, (1950) A.B., A.M. Instructor in Speech

Duke University
Miller, Oscar Lee, (1946) M.D. Lecturer in Orthopaedic Surgery
Mitchell, Frank Kirby, (1926) A.B., A.M. Associate Professor of English

Charlotte, N. C.

619 Swift Avenue
Moody, James D., (1948) A.B., M.D. Associate in Surgery 2708 Legion Avenue
*Morgan, Ralph Pierpont, Jr., (1946) B.S. in M.E. Instructor in Mechanical Engineering

910 Sixth Street
Moser, Louise G., (1949) R.N., A.B., M.N. Assistant Professor of Nursing Education

Duke Hospital
Mueller, Earl George, (1945) B.M., A.M., M.F.A. Assistant Professor of Art

1212 Virginia Avenue
Mueller, Julia Wilkinson, Mrs., (1939-41; 1946) B.M., M.A. Assistant Professor of Music

1212 Virginia Avenue
Murphy, Richard J. F., (1948) B.Sc., M.D., C.M. Instructor in Medicine

1203 Ruffin Street
Myers, Hiram Earl, (1926) A.B., S.T.B., S.T.M. Professor of Biblical Literature

141 Pinecrest Road
Myers, Jack Duane, (1947) A.B., M.D. Assistant Professor of Medicine

713 Anderson Street
†Nahm, Helen, (1946) R.N., B.S., M.S., Ph.D. Professor of Nursing Education and Director, Division of Nursing Education

Faculty Apartments
Negley, Glenn, (1946) A.B., M.A., Ph.D. Professor of Philosophy

1700 Shawnee Street
Nelson, Ernest William, (1926) A.B., A.M., Ph.D. Associate Professor of History

2217 Club Boulevard
Neurath, Hans, (1938) Ph.D.
Professor of Physical Biochemistry
Pinecrest Road
Newson, Henry W., (1948) B.S., Ph.D. Professor of Physics

1111 N. Gregson Street
Nicholson, William McNeal, (1935) A.B., M.D. Associate Professor of Medicine

824 Anderson Street
Nielsen, Walter McKinley, (1925) B.S. in E.E., Ph.D. Professor of Physics
*Resigned, effective August 31, 1950.
$\dagger$ Absent on leave, 1950-51.
*Nordheim, Lothar Wolfgang, (1937) Ph.D. Professor of Physics

2255 Cranford Road
Odom, Guy Leary, (1943) M.D. Associate Professor of Neurosurgery Hope Valley Road
$\dagger$ Ohlson, John A., (1947) B.S., M.A. Instructor in Psychology

Garrett Road, Route No. 1
Oosting, Henry John, (1932) A.B., M.S., Ph.D. Professor of Botany 2642 University Drive, Rockwood
Orgain, Edward Stewart, (1934) M.D. Associate Professor of Medicine

Hope Valley

Ormond, Jesse Marvin, (1923) A.B., B.D., D.D. Professor Emeritus of Practical Theology

110 Pinecrest Road
Palmer, Aubrey Edwin, (1944) B.S. in Engr., C.E. Assistant Professor of Civil Engineering

2519 State Street
Parker, Harold Talbot, (1939) A.B., Ph.D. Assistant Professor of History

Glenn Apartments
Patterson, Karl Bachman, (1920) A.B., A.M. Assistant Professor of Mathematics

1024 Monmouth Avenue
Patterson, Robert Leet, (1945) A.B., A.M., B.D., Ph.D. Professor of Philosophy 1040 West Forest Hills Boulevard
Patton, Lewis, (1926) A.B., Ph.D. Associate Professor of English 614 Swift Avenue
Payne, Lela M., (1947) B.A., M.A. Instructor in Physical Education

213 Faculty Apartments
Pearse, Arthur Sperry, (1926) B.S., A.M., Ph.D., LL.D. Professor Emeritus of Zoology 803 Second Street
Pearse, Richard L., (1938) M.D. Instructor in Obstetrics and Gynecology

1325 Arnette Avenue
Peele, Talmadge Lee, (1939) A.B., M.D. University Apartments Associate Professor of Anatomy and Associate in Medicine
$\dagger$ Pemberton, John deJarnette, Jr., (1947) A.B., LL.B. Associate Professor of Law

1920 Ward Street
Penrod, Kenneth, (1950) Associate Professor of Physiology and Pharmacology Duke Hospital
Peppler, Charles William, (1912) A.B., Ph.D. Professor Emeritus of Greek 406 Buchanan Road
$\ddagger$ Perlzweig, William Alexander, (1930) B.S., A.M., Ph.D. Professor of Biochemistry

Hope Valley

Perry, Edmund, (1950) A.B., B.D. Instructor in Religion

Duke University
Perry, Harold Sanford, (1932) A.B., Ph.D.
Associate Professor of Botany
2302 Cranford Road
Persons, Elbert Lapsley, (1930) A.B., M.D.
Assistant Professor of Medicine and Associate Professor
of Preventive Medicine and Public Health
723 Anderson Street

* Absent on leave, 1950-51.
$\dagger$ Resigned, effective August 31, 1950.
$\ddagger$ Died, December 10, 1949.

Petry, Ray C., (1937) A.B., A.M., Ph.D., LL.D.

Professor of Church History
128 Pinecrest Road
University Apartments
2517 Perkins Road
Charlotte, N. C.
2506 Cornwallis Roac̀
3 Sylvan Road
1701 Englewood Avenue
Erwin Apartments

Hillsboro, N. C.
512 Watts Street
103 Faculty Apartments
626 Swift Avenue
Greensboro, N. C.
2007 Ruffin Street
Duke University
Myrtle Drive
1500 Ruffin Street
1832 Forest Road
Duke University
Ran. Max, (1949) A.B., LL.B., Ph.D., LL.D Visting Professor of Law
S. Air Force

2421 Perkins Road
Raney, Richard Beverly, (1934) A.B., M.D. Assistant Professor of Orthopaedics

1110 Shepherd Street
Rankin, Robert Stanley, (1927) A.B., A.M., Ph.D. Professor of Political Science

1107 Knox Street
Rankin, Watson S. (1949) M.D., D.Sc. Visiting Lecturer in Hospital Administration

* Died, June 22, 1950.
*Rankin, William Walter, Jr., (1926) B.E., M.A.
Professor of Mathematics
1011 Gloria Avenue
Raper, Edward S., (1932) A.B.
Instructor in Hospital Administration 2317 Club Boulevard
$\dagger$ Ratchford, Benjamin Ulysses, (1928) B.S., A.M., Ph.D.
Professor of Economics
133 Pinecrest Road́
Rauh, Albert E., (1949) M.D.
Associate in Neuropsychiatry Roanoke, Va.
$\ddagger$ Raymond, Mary Lois, (1931) A.B., M.A. Assistant Professor of Romance Languages Faculty Apartments
Reamer, I. Thomas, (1931) Ph.G. Instructor in Pharmacy

2114 Woodrow Street
Reardon, Kenneth J., (1947) A.B., A.M. Assistant Professor of English

2610 Duke Homestead Road
Reed, Frederick Jerome, (1935) M.E., M.S. Associate Professor of Mechanical Engineering 2203 Englewood Avenue
Rees, Ennis Samuel, (1949) A.B., M.A. Instructor in English

1813 Hillcrest Drive
Reeves, Robert James, (1930) A.B., M.D. Professor of Radiology

920 Anderson Street
Reichenberg-Hackett, Wally, Mrs., (1946) Ph.D. Assistant Professor of Psychology

Route 1, Erwin Road
**Rentz, Thomas Eugene, (1949) B.A. Instructor in Romance Languages

Duke University
Rhine, Joseph Banks, (1927) B.S., M.S., Ph.D. Director of Parapsychology Laboratory

908 W. Club Boulevard
Richards, Claude Henry, Jr., (1946) A.B., A.M., Ph.D. Assistant Projessor of Political Science 1407 N. Gregson Street
Rider, Annette S., (1949) R.N., B.S. Instructor in Obstetrical Nursing 915 Chester Street
**Robbins, J. Albert, Jr., (1946) B.A., M.A., Ph.D. Instructor in English

Faculty Apartments
Robert, Joseph Clarke, (1938) A.B., A.M., Ph.D. Professor of History 1102 B Street
Roberts, Henry S., Jr., (1948) A.B., Ph.D. Assistant Professor of Zoology R.F.D. Box 595, Duke Homestead Road
Roberts, John H., (1931) A.B., Ph.D. Professor of Mathematics

2813 Legion Avenue
Roberts, Louis Carroll, (1933) B.S., M.D. Instructor in Urology

600 N. Gregson Street
Rodnick, Eliot H., (1949) A.B., Ph.D.
Professor of Psychology and Director of Clinical Training

411 Francis Street
Rogers, Robert S., (1937) A.B., A.M., Ph.D., F.A.A.R. Professor of Latin

148 Pinecrest Road

* Absent on sabbatical leave, first semester, 1950-51.
$\dagger$ Absent on leave, first semester, 1950-51.
$\ddagger$ Died, August 5, 1949.
** Resigned, effective August 31, 1950.

Ropp, Theodore, (1938) A.B., A.M., Ph.D. Associate Professor of History

302 Woodridge Drive
Rose, Jesse Lee, (1936) A.B., M.A., Ph.D. Assistant Professor of Latin and Greek

East Campus
Ross, Norman F., (1937) D.D.S. Instructor in Dentistry

Chelsea Circle, Hope Valley
Ross, Robert Alexander, (1930) B.S., M.D. Professor of Obstetrics and Gynecology

818 Anderson Street
*Ross, William Dee, Jr., (1946) A.B., A.M. Instructor in Economics

University Apartments
Rowe, Gilbert Theodore, (1928) A.B., S.T.D., D.D., Litt.D. Professor Emeritus of Christian Doctrine 150 Pinecrest Road
Roy, Donald F., (1950) A.B., A.M. Instructor in Sociology

Duke University
Rucker, Marifn Pierce, (1941) A.B., M.D., LL.D. Lecturer in Obstetrics and Gynecology

Richmond, Va.
Rudin, John J., II, (1945) A.B., B.D., M.A. Assistant Professor of Speech

2122 Englewood Avenue
$\dagger$ Rudin, Walter, (1949) A.B., M.A., Ph.D. Instructor in Mathematics

Duke University
Rudisill, John A., Jr., (1950) B.S. in E.E. Visiting Instructor in Electrical Engineering Duke University
Rudisill, Mabel, (1948) A.B., M.A., Ph.D. Associate Professor of Education Guess Road
Rudolph, Victor John, (1948) B.S., M.F. Assistant Professor of Forest Management

1104 Ninth Street
Ruffin, Julian Meade, (1930) A.B., M.A., M.D. Professor of Medicine

816 Anderson Street
Rundles, Ralph Wayne, (1945) A.B., Ph.D., M.D. Assistant Professor of Medicine

132 Pinecrest Road
$\dagger$ Ruskel, Howard W., (1949) B.A., M.A., Ph.D. Instructor in English 1408 Duke University Road
Russell, Elbert, (1926) A.B., A.M., Ph.D., Litt.D. Dean Emeritus of the Divinity School

Duke University
St. John, J. Harold, (1949) B.S., M.D. Instructor in Medicine Piedmont Village
Sales, Reames Hawthorne, (1949) A.B., B.D. Instructor in Religion

Duke University
Sandeen, Muriel I., (1950) B.S., M.S., Ph.D. Instructor in Zoology

Duke University
Sanders, C. Richard, (1937) B.Ph., M.A., Ph.D. Associate Professor of English

808 Fifth Street
Saville, Eugenia Curtis, Mrs., (1947) A.B., M.A. Assistant Professor of Music No. 14 Duke University Apts., Markham and Fifth Streets
Saville, Lloyd B., (1946) A.B., M.A., Ph.D. No. 14 Duke University Apts., Assistant Professor of Economics Markham and Fifth Streets

[^37]Sawyer, Charles Henry, (1944) A.B., Ph.D.
Professor of Anatomy
2119 Englewod Avenue
Saylor, John Henry, (1928) A.B., A.M., Ph.D. Professor of Chemistry

707 Club Boulevard
Scanlon, William G., (1949) M.D.
Associate in Neuropsychiatry
Scheinberg, Peritz, (1949) A.B., M.D. Instructor in Medicine 615 Ruby Street

227 Dacian Avenue
Schettler, Clarence Henry, (1946) A.B., A.M., Ph.D. Associate Professor of Sociology

2162 Guess Road
Schiebel. Herman Max, (1939) A.B., M.D. Associate in Surgery

1410 Pennsylvania Avenue
Schieve, James V., (1949) D.V.M., M.D. Instructor in Medicine

2312 Wilson Street
Schumacher, Francis X., (1937) B.S. Professor of Forestry

6 Sylvan Road
Schwerman, Esther Louise, (1947) B.M., A.B., M.A. Assistant Professor of Speech

1102 Monmouth Avenue
Schwert, George, Jr., (1946) B.A., Ph.D. Assistant Professor of Biochemistry

615 Colgate Street
Sealy, Will Camp, (1946) B.S., M.D. Assistant Professor of Surgery 919 Monmouth Avenue
Seeley, Walter James, (1925) E.E., M.S. Professor of Electrical Engineering

1005 Urban Avenue
Sewall, Lee G., (1949) A.B., M.D. Assistant Professor of Neuropsychiatry Roanoke, Va.
Sharp, D. Gorlon, (1939) B.S., M.A., Ph.D. Assistant Professor of Biophysics in Experimental Surgery and Biophysicist to Duke Hospital

202 Francis Street
Shears, Lambert Armour, (1927) A.B., A.M., Ph.D. Associate Professor of German

917 Green Street
Shields, John Herman, (1926) A.B., A.M. Associate Professor of Accounting

1315 Vickers Avenue
Sherwood, Mildred M., (1948) R.N. Instructor in Pediatrics

Baker House
Shingleton, William W., (1947) A.B., M.D. Associate in Surgery
*Sibley, Charles K., (1949) A.B., M.A. Instructor in Art

Silver, George A., (1948) B.S., M.D. Associate in Neuropsychiatry

2005 Arbor Street
Silva, Joseph Andrew, (1950) B.S.E.E., A.M. Instructor in Mathematics

Duke University
Simmons, Edward C., (1947) A.B., A.M., Ph.D. Professor of Economics

2510 Perkins Road
Simpson, William Hays, (1930) A.B., A.M., Ph.D. Associate Professor of Political Science

1406 Dollar Avenue

* Resigned, effective August 31, 1950.

Singletary, William V., (1949) A.B., M.D. Instructor in Medicine

2018 Sprunt Street
Singleton, Mary C., (1940) B.S., R.P.T.
Instructor in Plysical Therapy
2039 Englewood Avenue
*Slaughter, Grimes, (1948) B.S. in E.E. Instructor in Electrical Engineering

Duke University
Slay, James Matthew, (1946) A.B., M.A. Instructor in Education

1222 Arnette Avenue
Smith, David Tillerson, (1930) A.B., M.D. Hope Valley Professor of Bacteriology and Associate Professor of Medicine
Smith, Dorothy Mary, (19+7) R.N., B.S., M.S.
Assistant Professor of Nursing Education and Director, Division of Nursing Education

Duke Hospital
Smith, Hilrie Shelton, (1931) A.B., Ph.D., D.D., Litt.D. Professor of American Religious Thought 1523 Hermitage Court
Smith, Robert Sidney, (1932) A.B., A.M., Ph.D. Professor of Economics

2236 Cranford Road
Smith, Susan Gower, Mrs., (1930) A.B., M.A. Associate in Nutrition

Hope Valley
Smith, William V., (1946) B.S., Ph.D. Associate Professor of Physics 1208 Dwire Place
Snow, William Brewster, (1948) B.S. in C.E., M.S., Sc.D. Associate Professor of Civil Engineering 1022 W. Trinity Avenue
Spence, Bessie Whitted, Mrs., (1929) A.B., A.M., B.D. Assistant Professor of Biblical Literature

Hope Valley
Spence, Hersey Everett, (1918) A.B., A.M., B.D., D.D., Litt.D. Professor of Biblical Literature and Religious Education Hope Valley

Spengler, Joseph John, (1934) A.B., M.A., Ph.D. Professor of Economics
Sponer, Hertha, (1935) Ph.D. Professor of Physics

Hope Valley
Stansbury, Dale F., (1946) B.S., LL.B., J.S.D. 1008 W. Trinity Avenue Professor of Laze and Faculty Director of Laze Library
Starke, Helen, (1948) A.B., M.D. Instructor in Medicine

Cole Mill Road
Stead, Eugene Anson, Jr., (1947) B.S., M.D. Florence McAlister Professor of Medicine

2122 Myrtle Drive
Stevens, Harry R., (1947) A.B., M.A., Ph.D. Assistant Professor of History

University Apartments
Stinespring, William Franklin, (1936) B.A., M.A., Ph.D. Professor of Old Testament

1107 Watts Street
Stocker, Frederick W., (1943) M.D. Associate Professor of Ophthalmology

1124 Forest Hills Boulevard
Stoddard, Leland Douglas, (1946) A.B., M.D. Associate in Pathology

1406 Duke University Road
Stone, Edward, (1949), B.A., M.A. Instructor in English

Stripling, Harriette, (1950) A.B., M.A., Docteur de L'université Visiting Instructor in Romance Languages Duke University
Strobel, Howard Austin, (1948) B.S., Ph.D. Instructor in Chemistry
Stumpf, Wippert A., (1948) B.S., M.A., Ph.D. Associate Professor of Education

127 Pinecrest Road
Styron, Charles Woodrow, (1946) B.S., M.D. Associate in Medicine Duke Hospital
Sugden, Herbert Wilfred, (1929) A.B., A.M., Ph.D. Assistant Professor of English

University Apartments
Suitt, Robert Burke, (1940) M.D. Assistant Professor of Neuropsychiatry

1131 Dollar Avenue
Sunderland, Elizabeth Read, (1939-42; 1943) A.B., A.M., Ph.D. Assistant Professor of Art

College Station
Sutherland, George Fraser, (1946) M.D., M.Sc. Visiting Associate Professor of Neuropsychiatry Forest Hills Boulevard
Swanson, Louis E., (1949) A.B. Instructor in Hospital Administration 2610 Shenandoah Avenue
Swasey, Martha G., Mrs., (1946) B.A., M.A. No. 12 Duke University Apts., Assistant Professor of Physical Education Markham and Fifth Streets
Switzer, Byron R., (1949) B.S., Colonel, U. S. Air Force Professor of Air Science

2402 Chapel Hill Road
*Sydnor, Charles Sackett, (1936) A.B., Ph.D., Litt.D. Professor of History

116 Pinecrest Road
$\dagger$ Taylor, Harvey Grant, (1945) A.B., A.M., M.D. Associate Professor of Pediatrics and Bacteriology, Route 2, Hillsboro, N. C. and Assistant Dean of Medical School
Taylor, Haywood Maurice, (1930) B.S., M.S., Ph.D. Associate Professor of Biochemistry and Professor of Toxicology University Drive, Rockwood
Thomas, Joseph Miller, (1930) A.B., Ph.D. Professor of Mathematics 2215 Cranford Road
Thomas, Walter Lee, Jr., (1932) A.B., A.M., M.D. Associate Professor of Obstetrics and Gynecology

415 Carolina Circle
$\ddagger$ Thompson, Edgar Tristram, (1935) A.B., A.M., Ph.D. Professor of Sociology
Thompson, Frederick A., Jr., (1950) A.B., M.D. Instructor in Medicine

138 Pinecrest Road **Thomson, Roy Bertrand, (1938) B.S., M.F., Ph.D. Professor of Forest Economics

Duke Hospital

Travis, Martin Bice, Jr., (1949) A.B., M.A., Ph.D. Assistant Professor of Political Science

2405 University Drive
Truesdale, James N., (1930) A.B., A.M., Ph.D. Assistant Professor of Greek
Turner, Violet Horner, Mrs., (1947) B.A., M.D. Instructor in Obstetrics and Gynecology

Faculty Apartments

2106 Cole Road

[^38]*Uhrhane, Luella J., (1947) R.N., B.S.
Instructor in Health Education
402 Erwin Apartments
*Vail, Charles Rowe, (1939) B.S. in E.E., M.S. (E.E.) Assistant Professor of Electrical Engineering

900 Dacian Avenue
Van Arsdall, Clyde J., Jr., (1948) B.S., Commander, U. S. Navy Associate Professor of Naval Science

421 Carolina Circle
Vance, Mary Hendren, Mrs., (1926) A.B., A.M. Assistant Professor Emeritus of English

Duke University
$\dagger$ Van Wagenen, Richard W., (1947) A.B., M.S., Ph.D. Associate Professor of Political Science

2017 Sprunt Street
Vollmer, Clement, (1926) A.B., A.M., Ph.D. Professor of German

2114 Myrtle Drive
yon Beckerath, Herbert, (1935) Ph.D. Professor of Economics and Political Science Hope Valley
Vosburgh, Warren Chase, (1928) B.S., M.S., Ph.D. Professor of Chemistry 2319 Englewood Avenue
Voyles, Carl M., Jr., (1950) B.S., M.D. Instructor in Medicine 1112 Buchanan Boulevard
Wackerman, Albert Edward, (1938) B.S., M.F. Professor of Forest Utilization

Dover Road, Hope Valley
Wade, Wallace, (1931) A.B. Head Coach of Football

Myrtle Drive
Wagner, Fred, (1950) A.B., M.A. Instructor in English

Duke University
Walton, Arley John, (1948) A.B., B.S.L., D.D.
815 Third Street Associate Professor of Practical Theology and Director of Field W'ork
Walton, Loring Baker, (1929) A.B., Lic. ès L., Ph.D. Professor of Romance Languages

2235 Cranford Koad
Ward, Charles Eugene, (1927) A.B., A.M., Ph.D. Associate Professor of English

2429 Perkins Ruad
Warren, John Rush, (1946) A.B., M.S. Instructor in Botany 2002 Ruffin Street
Watson, Richard L., Jr., (1939) A.B., Ph.D. Assistant Professor of History

1524 London Circle
Way, Vernon Elgin, (1930) A.B., A.M., M.A. Assistant Professor of Greek

918 Urban Avenue
Webb, Albert Micajah, (1903) A.B., A.M. Professor Emeritus of Romance Languages 1017 Trinity Avenue
Webb, Bailey Daniel, (1949) A.B., M.S., Ph.D., M.D. Instructor in Pediatrics 317 West Trinity Avenue
Weeks, K. D., (1947) B.S., M.D. Instructor in Medicine University Apartments
Weitz, Henry, (1950) A.B., Ed.M., Ed.D. Associate Professor of Education

Duke University
Welsh, Paul, (1948) A.B., Ph.D. Assistant Professor of Philosophy

[^39]Wetherby, Joseph C., (1947) A.B., M.A. Assistant Professor of Speech

2306 Prince Street
*Wharton, George Willard, Jr., (1939) B.S., Ph.D.
Associate Professor of Zoology
1202 Oval Drive
White, Joseph Warren, (1946) A.B., M.D. Lecturer in Orthopaedic Surgery

Duke University
White, Marie Anne, Mrs., (1930) A.B., A.M.
Assistant Professor of English
107 Pinecrest Road
Whitridge, Eugenia R., Mrs., (1947) A.B., A.M., Ph.D. Assistant Professor of Sociology

Vesson Street
Widgery, Alban Gregory, (1930) B.A., M.A.
Professor of Philosophy
St. Catherine, Pinecrest Road
Wien, Janet, (1949) A.B., M.S.
Associate in Medical Social Service University Apartments
Wiener, Thomas G., (1948) B.A., M.A., Ph.D.
Assistant Professor of Russian Language and Literature 803 Demerius Street
Wilbur, Karl Milton, (1946) A.B., A.M., Ph.D.
Professor of Zoology
2414 Club Boulevard
Wilbur, Leslie Clifford, (1949) B.S., M.S. Instructor in Mechanical Engineering

Duke University
Wilbur, Ralph Sydney, (1933) B.S. in M.E., M.E.
Professor of Mechanical Engineering
1018 Demerius Street
Wilder, Jesse Holland, (1948) B.S. in M.E., M.S. Instructor in General Engineering

2219 Club Boulevard
Wilder, Pelham, Jr., (1949) A.B., M.A., Ph.D.
Instructor in Chemistry
2411 University Drive
Wilikinson, William E., (1949) B.S., M.D.
Professor of Military Science and Tactics and Associate in Neuropsychiatry

1204 Ruffin Street
Williams, D. M., (1947) B.S.
Lecturer in Preventive Medicine and Public Health 1107 Alabama Avenue
Williams, James Wesley, (1937) A.B., B.S. in C.E., M.S.
Assistant Professor of Civil Engineering
206 Swift Avenue
Williams, Philip, (1949) B.A., M.A., Ph.D.
Assistant Professor of English
l'aculty Apartment Annex
Wilson, Florence K., (1946) R.N., B.A., M.A. Faculty Apartments Professor of Nursing and Dean of the School of Nursing
Wilson, Frederick Eliphaz, (1923) A.B., A.M. Associate Professor of German

1020 Demerius Street
†Wilson, Mardis Glen, (1949) B.A., M.A.
Instructor in English 905 Second Street
Wilson, Robert North, (1910) A.B., M.S.
Professor Emeritus of Chemistry
822 Third Street
Wilson, Robert Renbert, (1925) A.B., A.M., Ph.l)., LL.D. Professor of Political Science

717 Anderson Street
Wilson, William P., (1949) B.S., M.D.
Instructor in Neuropsychiatry
2600 Englewood Avenue

* Absent on sabbatical leave, 1950.51.
$\dagger$ Resigned, effective August 31, 1950.

Withers, Loren, (1949) B.M., B.S., M.S. No. 8 Duke University Apts., Assistant Professor of Music

Markham and Fifth Streets
Wolf, Frederick Adolphus, (1927) A.B., A.M., Ph.D. Professor of Botany

924 Urban Avenue
Wood, James W., (1949) M.D. Instructor in Medicine Duke Hospital
Woodhall, Barnes, (1937) A.B., M.D. Professor of Neurosurgery

Dover Road, Hope Valley
Woody, Robert Hilliard, (1929) Ph.B., A.M., Ph.D. Associate Professor of History

2648 University Drive
Wooten, Eleanor Jane Herring, (1946) A.B., M.D. Instructor in Pediatrics

Duke Hospital
Wright, DeWitt, (1943) B.S., J.D. Instructor in Hospital Administration Hillsboro, N. C.

Yates, Warren G., (1949) A.B., A.M. Instructor in German

906 Spruce Street
Young, David A., (1946) A.B., M.D. Lecturer in Neuropsychiatry

Duke Hospital
Young, Edward Hudson, (1923) A.B., A.M.
Assistant Professor Emeritus of Romance Languages Beverly Apartments
*Young, Franklin Woodrow, (1945) A.B., B.D., Ph.D. Assistant Professor of Biblical Theology No. 13 Duke University Apts., Markham and Fifth Streets

Zener, Karl Edward, (1928) Ph.B., A.M., Ph.D.
Professor of Psychology
Sparger Road

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Librarian, Chemistry
Smith, Mrs. Phyllis F. Assistant, Circulation Department

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Hicks, Mrs. Spears, A.B., B.S. in L.S.
Reference Librarian
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1403 N. Duke Street
121 West Seeman Street
1512 N. Duke Street

* Absent on sick leave.

Randall, Mrs. Marion M., B.A., M.A.

Cataloger
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LAW LIBRARY
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Copeland, Madeline, A.B., A.B. in L.S. Cataloger
Day, Katherine, B.S. Assistant Librarian in charge of Acquisitions

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Farrar, Mrs. Mildred Perkins, A.B. Assistant Librarian

117 Faculty Apartments

Bufkin, Mrs. Jessie Harned Medical Record Librarian

403 Watts Street
1018 Monmouth Avenue
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117 Faculty Apartments

909 N. Gregson Street

# UNIVERSITY CHAPEL - RELIGIOUS ACTIVITIES 

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*Bosley, Harold A., A.B., B.D., Ph.D., D.D.

Barnes, James Foster, A.B., A.M. Director of Choral Music
Brees, Anton
University Carillonneur
Hendrix, Mildred Little, Mrs., B.S. University Organist
Phillips, James Henry, A.B., B.D., Ph.D. Director of Religious Activities
Sampley, Ethelene
Director of Religious Activities, Woman's College

## RELIGIOUS ACTIVITIES STAFF WORKERS

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Methodist-Rainwater, Roland W., A.B., B.D.
Lutheran-Shealy, Charles J., A.B., B.D.
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- Resigned, effective as of end of academic year, 1949-50.

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Reilly, Mrs. Betty Dew, R.N.
Resident Nurse, Woman's College East Campus Infirmary
Vestal, Mozelle, R.N.
Resident Nurse, Woman's College East Campus Infirmary
Burnett, Mrs. Ollie Phillips, R.N.
Resident Nurse, West Campus

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Pemberton, Mrs. Mary Norcutt Hostess, West Campus

West Campus Union
Barnes, Evelyn, B.S. Counselor, Alspaugh House

Alspaugh House
Barnwell, Polly, A.B. Counselor, Pegram House

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*Bolton, Elizabeth, A.B., M.A. Counselor, Southgate House

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* Resigned, effective August 31, 1950.

Brackman, Jean, B.S.
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Bassett House
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| :--- | :--- | :--- |
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Tumblin, John
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Turner, William Calhoun
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Mathematics
Greenville, S. C.

| Name | Department | Home Ad |
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| Van Fossen, Richard Waight A.B., Duke University | English | Washington, D. C. |
| Wallace, James N. B.S., Mount Allison University | Mathematics | Pontiac, Mich. |
| Waller, William Washington A.B., Duke University | Zoology | Washington, D. C. |
| Walter, Waldemar Melchert A.B., Harvard University | Zoology | Cambridge, Mass. |
| West, Doris Eilene <br> A.B., Earlham College; A.M., | ociology <br> o State University | Portsmouth, Ohio |
| Wilkinson, Thomas Oberson A.B., University of North Caro | Sociology | Jacksonville, Fla. |
| Wilson, Charles Fay <br> B.A., University of Chattanooga | Romance Languages | Davis, Tenn. |
| Wilson, Ulrey Kaulback <br> A.B., University of Chattanoog | Education <br> A.M., Duke University | Durham, N. C. |
| Wishner, Raymond Philip B.S., Northwestern University | Economics | Chicago, Ill. |
| Wood, Paul Royal <br> A.B., Birmingham-Southern | Romance Languages e | Birmingham, Ala. |
|  | OLAR |  |
| Armstrong, Florapearl <br> B.S., University of Chattanooga | Biochemistry Lookou | ut Mountain, Tenn. |
| Bellamy, Virginia Nelle B.S., East Tennessee State Coll | Religion ge | La Follette, Tenn. |
| Carroll, Kenneth Lane A.B., B.D., Duke University | Religion | Easton, Md. |
| Cunningham, Noble E., Jr. <br> B.A., University of Louisville; | History <br> A.M., Duke University | Louisville, Ky. |
| Dail, Bernard Eugene A.B., Duke University | Economics | Kinston, N. C. |
| Elliott, Don Ringgold <br> B.A., Henderson State Teachers | Political Science College | rkadelphia, Ark. |
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| Gladner, Jules A. <br> B.S., M.S., University of Delawa | Bacteriology <br> re | Wilmington, Del. |
| Gough, Carolyne Frances A.B., M.A., Marshall College | Political Science | hhurst, L. I., N. Y. |
| Harmon, John Engler <br> A.B., A.M., West Virginia Univ | Political Science rsity | Wheeling, W. Va. |
| Hollyday, Frederic Blackmar M B.A., Washington and Lee Un | History versity | St. Michaels, Md. |
| Lyles, James Robert, Jr. <br> A.B., Wofford College; M.A., | Education $\underset{\text { niversity of }}{\text { H }}$ | eath Springs, S. C. lina |
| McCain, Paul Moffatt <br> B.A., Erskine College ; A.M., D | History <br> e University | Decatur, Ga. |


| Name | Department | Home Address |
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| Oliver, George Brown B.A., Randolph-Macon College | History | Doswell, Va. |
| B.A., Randolph-Macon College ; B.D., Duke University ${ }^{\text {/ }}$ |  |  |
| Patton, Alice Lucinda A.B., Duke University | History | Durham, N. C. |
| Ratliff, Charles Edward, Jr. B.S., Davidson College | Economics | Morven, N. C. |
| Reveley, Walter Taylor <br> A.B., Hampden-Sydney College; | Religion B.D., Union Theol | Memphis, Tenn. Seminary |
| Robertson, Patricia Ruth A.B., Smith College | English | shington, D. C. |
| Smart, Hugh Robert George A.B., McGill University | Philosophy La | Quebec, Canada |
| Smith, Dorothy Branch <br> B.S., Georgia State College for | Philosophy Women | Augusta, Ga. |
| Smith, Kenneth Lee <br> A.B., University of Richmond; | Religion <br> B.D., Crozer Seminar | Exmore, Va. |
| Steele, Arthur RobertA.B., University of California; M.A., University of New Mexico |  |  |

# UNDERGRADUATE COLLEGES 

Trinity College<br>The Woman's College<br>The College of Engineering

1949-1950<br>ANNOUNCEMENTS FOR 1950-1951

## THE COLLEGES

## GENERAL STATEMENT

Duke University offers in Trinity College, the Woman's College, and the College of Engineering the following academic degrees for undergraduate work: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Nursing Education, and Bachelor of Science in Civil, Electrical, or Mechanical Engineering.

## TRINITY COLLEGE

Trinity College, situated on the West Campus, is the undergraduate college of arts and sciences for the men of Duke University. Through the catholicity of its subject matter, its insistence on a common core of fundamental courses, and its emphasis on a more intensive study of some selected subject, the College aims to give its students a knowledge and appreciation of the culture of the Western World and at the same time to provide a foundation for careers in business and the professions. Its fundamental object is to develop the individual talent of its students.

## THE WOMAN'S COLLEGE

The Woman's College, the college of arts and sciences for undergraduate women, is situated on the East Campus. As a co-ordinate college within the University system it offers distinctive advantages. The superior faculties, libraries, and laboratories of the university are available; yet the students also have the special opportunities which belong to a separate woman's college. They receive training in leadership by administering their own organizations and by participating in community projects. At the same time they have the stimulus which comes from co-educational classes and the experience of working with the men of the other colleges in many campus activities.

## THE COLLEGE OF ENGINEERING

The College of Engineering, one of the three undergraduate colleges of the University, offers standard four-year programs of study in Civil, Electrical, and Mechanical Engineering. All three curricula are fully approved by the national accrediting agencies of the engineering profession. Courses in the humanities have been given due recognition because it is realized that the engineer has definite responsibilities as a citizen and these responsibilities cannot be properly stressed in the purely technical curricula. Men and women civilian students, as well as members of both the Air ROTC unit and the Naval ROTC unit, are admitted to the College. Engineering students may participate in all general campus organizations and activities as well as in those of the College of Engineering.

## THE LIBRARIES

The University Libraries contained 960,859 volumes and more than a million manuscripts at the end of the school year 1948-49. Many additional hundreds of rare books, periodicals and newspapers are available in the 3,129 reels of microfilm which the Library possesses. Seventy foreign and domestic newspapers and about 3,600 periodicals are received currently.

The General Library, in which 618,613 volumes are shelved, is centrally located on the West Campus. The Undergraduate Reading Room on the first floor contains a selected collection of 3,500 books for general reading, together with an equal number of supplementary volumes reserved for undergraduate courses. One of the features of this unit of the Li brary is an attractively furnished room opening off the Undergraduate Reading Room, with a selection of current books of general interest on open shelves. The main reference room of the Library, containing 5,000 volumes of important reference works of a general character, is on the second floor. Nearby are the Loan Desk, where books may be borrowed from the stacks, and the Union card catalog, a record of all the books in the University Libraries. In the same general area is the Documents Room, which houses the official publications of the federal and state government. These areas are open to all students.

The General Library building has been doubled in size by completion of an addition which was begun in 1947. The new area contains stacks, special reading rooms, offices for staff and faculty, and reading and storage facilities for rare books and manuscripts. The entire area for book storage, rare books and manuscripts is air-conditioned. Seniors, honor students, and others undertaking special studies may be admitted to the stacks of the General Library.

The Chemistry library of 13,555 volumes, the Physics-Mathematics library of 13,002 volumes, the Biology-Forestry library of 40,090 volumes, are housed for the convenience of the faculty and students in the buildings of these departments. The libraries of the schools of Divinity $(46,318)$, Law $(89,122)$, and Medicine $(48,070)$, and the College of Engineering (12,994) likewise are shelved in the buildings of these special schools. Undergraduate students may, if occasion demands, have access to material in any of the libraries.

The Woman's College Library contains 79,095 volumes, chiefly the books most constantly needed in the undergraduate work of women students. An attractive feature of the library is the Booklovers' Room, where on open shelves students may find interesting books in various fields. In honor of Mr. James A. Thomas, the Thomas Memorial Room was opened in December, 1942, affording a quiet, attractive place for study or reading. The decorations and furnishings in the room were provided by Chinese and American friends of Mr. Thomas.

## THE AIR FORCE RESERVE OFFICERS' TRAINING CORPS

Duke University, in cooperation with the United States Air Force, operates an Air Force Reserve Officers' Training Corps program admin-
istered by an Air Force ROTC Unit under the command of a Professor of Air Science and Tactics. The unit functions as a regular department of instruction known as the Department of Air Science. It selects and trains students, who possess the requisite character, intelligence, desire, and sense of duty, to become Air Force Officers.

For enrollment in the Basic Course (freshman and sophomore years) the student must:
a. Be a male citizen of the United States.
b. Be physically qualified under standards prescribed by the Air Force. Due allowance will be made for defects which are correctible prior to the student's eligibility for appointment as a commissioned officer.
c. Be accepted by the institution as a regularly enrolled student.
d. Be not less than 14 years of age and not have reached 23 years of age at the time of enrollment.
e. Successfully complete such general survey and screening tests as may be prescribed.
For enrollment in the Advanced Course (junior and senior years) the student must:
a. Have successfully completed the Basic Course or have had at least one year of honorable service.
b. Execute a written agreement with the government to complete the Advanced Course, contingent upon remaining in school, and to attend the Advanced Summer Camp at the time specified.
c. Not have reached 27 years of age at the time of initial enrollment in the Advanced Course.
d. Successfully complete such general survey and screening tests as may be prescribed.
e. Be selected by the Professor of Air Science and Tactics and the appropriate authority of the institution.
All uniforms, texts, and training equipment required for the Air Science Course are furnished at government expense and students are paid approximately $\$ 600.00$ while completing the Advanced Course.

Upon graduation and completion of the Advanced Course students will be offered commissions as Second Lieutenants in the Air Force Reserve. Outstanding students will be offered life time careers in the Regular Air Force. Flying training is available after graduation for those who desire it and are physically qualified.

A student enrolled in Air Force ROTC is eligible for deferment from the Draft.

THE NAVAL RESERVE OFFICERS' TRAINING CORPS
The postwar NROTC was established by Public Law 729, signed by the President on August 13, 1946. This law, commonly known as the Holloway Plan, instituted the selection and training of officer candidates for the Navy and Marine Corps by means of Naval Scholarships in colleges and universities throughout the country. A Naval ROTC Unit,
under the command of the Professor of Naval Science, a Captain in the regular Navy, is located at Duke University.

The purpose of the NROTC is to provide a steady supply of welleducated junior officers for the line and staff corps of the regular Navy and Marine Corps and to build up a Reserve of trained officers who will be ready to serve their country in a national emergency. The NROTC, the U. S. Naval Academy, and the Naval Aviation Cadet Program are the three sources of career officers for the Navy. Officers commissioned from these sources are assured equal rank, treatment, and opportunity.

Scholarships are awarded to candidates selected as a result of an annual nation-wide test and selection procedure. These men are designated as Regular NROTC Students and are appointed Midshipmen, USNR. The scholarship covers the cost of tuition, fees, and textbooks. NROTC Midshipmen receive retainer pay at the rate of $\$ 600$ per year. The Navy furnishes necessary uniforms and equipment.

Normally students will attend college for four years while in the NROTC. They may take any course leading to a baccalaureate or higher degree, except that Midshipmen entering in 1950 and thereafter may not pursue courses leading to degrees in pre-medicine, pre-dentistry, pretheology, medicine, dentistry, or theology. They must include in their courses of study 24 semester hours of Naval Science plus certain minimum requirements in mathematics, physics, and English. They will wear the uniform only when engaged in drills or other Naval Activities prescribed by the Professor of Naval Science, and except for the ordinary requirements of gentlemanly behavior will be subject to Naval discipline only at those times. They are required to make two summer cruises at sea, and one summer training period of amphibious and aviation indoctrination. Upon graduation Regular NROTC students must accept a commission as Ensign, USN, or Second Lieutenant, USMC, if offered, and will be ordered to active duty for a period of $15-24$ months. After fifteen months service those so desiring may request an additional year of active duty, and apply for permanent retention in the services as career officers. Those who do not desire to remain as career officers must accept a commission in the Reserve of the appropriate service and remain in the Reserve at least until the sixth anniversary of their first commission Reserve Officers are not called to active duty except during a declared emergency or war, unless at their own request.

A second type of officer candidate in the NROTC is the Contract NROTC Student. These students are selected from qualified students regularly enrolled in Duke University. They have the status of civilians who have entered into a mutual contract with the Navy. They do not receive the compensation or benefits paid the Regular NROTC Student, but are furnished uniforms, Naval Science textbooks and equipment; and a subsistence allowance (currently 90 cents per day) during the final two years of NROTC training. Contract students make one training cruise during which they receive active duty pay. Contract students on graduation must accept a commission in the Naval or Marine Corps Reserve, but may, if they so desire and their services are required, request
active duty and a commission in USN or USMC. If ordered to active duty they then are eligible for selection as career officers under the same provisions as graduating NROTC Regulars.

Under the provisions of the Selective Service Act of 1948, Regular NROTC Students who serve a period of active duty as an integral part of their training under Public Law 729 are deferred from Selective Service. Contract Students, by virtue of an agreement to accept a commission on graduation and to serve on active duty if required, are deferred from Selective Service. All NROTC Students are considered on inactive duty in the Naval Reserve while in college, and such service may not be counted for exemption or deferment should a student be separated from the program for any reason.

## TRINITY COLLEGE AND THE WOMAN'S COLLEGE

## ADMISSION

Applicants may qualify for admission to Trinity College or the Woman's College as members of the Freshman Class or as students with advanced standing. Since the enrollment in the two colleges is limited, the Committee on Admissions will select the students who, in its opinion, are best qualified to benefit from the educational advantages which the colleges offer.

## APPLICATION FOR ADMISSION

Application for admission to Trinity College should be made to the Secretary of Duke University, Duke Station, Durham, North Carolina, for transmittal to the Council on Admissions. Application for admission to the Woman's College should be made to the Committee on Admissions, College Station, Durham, North Carolina. Forms of application will be sent on request.

## GENERAL REQUIREMENTS

Admission to Trinity College and to the Woman's College is dependent upon the ability, attainments, and character of the applicant. Each applicant must see that the Committee on Admissions receives a complete record of his work in secondary school or college, the required medical certificate, and satisfactory evidence of his good character and ability.

## SPECIFIC REQUIREMENTS

An applicant for admission to the Freshman Class must present at least fifteen acceptable units of secondary school credit. A unit of credit is allowed for a course of study pursued throughout an academic year in an accredited secondary school, provided five recitations per week have been held and the prescribed amount of work has been completed satisfactorily.

1. Twelve units must be in English, foreign language, history and social studies, mathematics, and natural science; and must include:
(a) English-3 units.
(b) Algebra-1 unit.
(c) Plane geometry-1 unit.
2. The three additional units may be in the subjects listed above or from those in the following table. The units indicate the maximum amount of credit acceptable in each subject:

| UBJECT | UNITS | SUBJECT | UNITS |
| :---: | :---: | :---: | :---: |
| Agriculture | 2 | Mechanical Drawing |  |
|  |  | Music |  |
| Commercial Subjects |  | Physical Geography |  |
| Household Economics |  | Woodworking, Mach |  |

Other units offered in subjects not included in this list will be considered for acceptance on the basis of full statements transmitted with the applicant's record from the school recommending him.

## ADMISSION BY CERTIFICATE

A graduate of an accredited school, who submits fifteen acceptable units of secondary school subjects, is recommended by his principal, and otherwise meets the requirements of the Committee on Admissions, may be admitted without examination. The certification and recommendation must be on blanks furnished by the College and signed by the principal of the school in which the applicant completed his course.

## ADMISSION BY EXAMINATION

An applicant who presents fifteen acceptable units for admission from a nonaccredited school is required to validate these units by entrance examinations and such other tests as the College may prescribe.

## ADMISSION WITH ADVANCED STANDING

A student of good character who has completed satisfactorily at least one full year of college work in an approved college may be admitted with advanced standing. He must have fulfilled the equivalent of the requirements for admission to the Freshman class, must present official certificates of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Credit for work completed will be determined in relation to the curriculum of Trinity College or the Woman's College.

A student enrolling for the Bachelor's degree, who transfers from a junior college or from a four-year college not affiliated with the Southern or a similar regional association, must continue, for at least one semester in Trinity College or in the Woman's College, the foreign language he presents for minimum graduation requirements. Credit for courses in science offered for advanced standing by a transfer from a junior college or a non-affiliated four-year college will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of " C " in a normal load of work. Transfer grades of " C " or above are rated at one quality point per credit hour when validated.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and not more than six semester hours credit is allowed for extension courses. Any extension work accepted must be specifically approved by the Dean of the College.

## ADMISSION FOR SPECIAL WORK

Upon the approval of the Dean, a student of mature age may be admitted for special work in such courses of instruction as he is qualified to take. He may not be admitted as a candidate for a degree in a regular course unless he meets all requirements for admission.

## READMISSION OF FORMER STUDENTS

A student, who, following withdrawal from College, desires to return, should apply to the Committee on Admissions. When applying for readmission the student should make a detailed statement of his or her activities since withdrawal from College.

## PRELIMINARY TESTS AND EXAMINATIONS

General ability and achievement tests are administered to all entering students during an orientation period at the beginning of each semester. These tests enable the appropriate adviser to prepare a course of study adapted to the ability and achievements of the individual student Physical examinations are also given.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

The requirements for the degree of Bachelor of Arts are based on the principle that the student will derive the maximum benefit from his college work if his program includes a broad distribution of studies among representative fields of culture, concentration within a special field, and some work of his own choice.

For graduation with the degree of Bachelor of Arts, the following course work must be completed in accordance with the academic regulations as stated on pages 138-142 of this Bulletin.
Uniform Course Requirements s.H.
English Composition ..... 6
Foreign Language ..... 6-18
Natural Science ..... 11
Religion ..... 6
Social Science and History ..... 12
Literature, Music, Art, and Philosophy ..... 6
Physical Education ..... 4
Major and related work ..... 42
Electives to make a total of ..... 124

These requirements are described in detail below. Descriptions of courses can be found under "Courses of Instruction, Trinity College and the Woman's College" on pages 88-127 of this Bulletin.

English Composition, 6 s.h.-This requirement is met by the completion of English 1-2. Students who demonstrate proficiency in English usage may be allowed to substitute a course in English literature for English 1.

Foreign Language, 6 to 18 s.h.-This requirement is met by the completion of the third college year of a foreign language. The languages which meet this requirement are French, German, Greek, Latin, Spanish. The number of courses required depends on previous training and ability as shown on placement tests. Students presenting for entrance four units of Latin may, however, satisfy the language requirement by the completion of the third college year of Latin or by two years of Greek. In exceptional cases, on the recommendation of the language department concerned and with the approval of the Dean, a student who has completed the second college year of one language may satisfy the requirement by the completion of the first year of another language.

Natural Science, 11 s.h.-To satisfy this requirement a student must complete a laboratory course ( 8 s.h.) in one of the natural sciences (botany, chemistry, geology, physics, zoology), and one course of at least 3 semester hours selected from mathematics (except Mathematics 1), logic and scientific methodology (Philosophy 48, 104, and 242), or from the sciences listed above.

Religion, 6 s.h.-To meet this requirement 6 semester hours must be chosen from Religion 1, 2, $\mathfrak{5 1}, 52,101,103,114,181,182,183$, or Philosophy 99.

Social Science and History, 12 s.h.-(a) Students who present for entrance two acceptable units of history can satisfy this requirement by 12 semester hours chosen from History 1-2, or 51-52, Economics 51-52, Education 84.

105, Political Science 61-62, Psychology 91-92, or Sociology 91-92. Six of the 12 semester hours must be taken in economics, history, political science, or sociology. (b) Students who do not present for entrance two acceptable units of history must take History 1-2, or 51-52, and 6 semester hours selected from the other social sciences named in (a).

Literature, Music, Art, and Philosophy, 6 s.h.-This requirement can be satisfied by a total of 6 semester hours in courses in English or American literature, foreign literature courses numbered above 100 , literature courses in translation. courses in aesthetics, art, music, or Philosophy 91, 93, or 94.

Physical Education, 4 s.h.-In Trinity College physical education is required during each of the first two years and is normally completed by the end of the sophomore year; in the Woman's College it is required during the first three years and is normally completed by the end of the junior year.

Major and Related Work, 42 s.h.-Prior to registration in the spring of his sophomore year, each student is required to choose his major field and confer with his departmental adviser on the requirements for major and related work.

The major work consists of 18 to 24 semester hours in one department exclusive of courses open primarily to Freshmen.* The choice of courses must be approved by the major department. The related work must be taken in at least two other departments and is selected subject to the approval of the major department and the Dean; it may not include more than one course of 6 or 8 semester hours open primarily to freshmen. Courses satisfying the uniform course requirements may also be counted toward the requirements in major and related work. Information on specific departmental requirements for major and related work can be found in the section "Courses of Instruction" (pages $72-146$ ), and several programs of study designed as preparation for professions are given in the next section.

The total amount of work that a student may take in any one department toward the Bachelor of Arts degree is limited to a maximum of 36 semester hours. In the Department of Aesthetics. Art, and Music, and the Department of Philosophy, the Department of English, the Department of Economics and Business Administration, and the Department of Romance Languages, a total of 54 semester hours is permitted, provided a total of not more than 36 semester hours is taken in any one division of the department.

Electives.-In addition to the uniform courses required and major and related work, other courses must be completed to make a total of at least 124 semester hours, including 4 semester hours of physical education.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the Dean of the college.

## CHOICE OF A MAJOR FIELD

The requirement of 42 semester hours in a major field is based primarily on the belief that some advanced study in one subject, together with related work in allied subjects, is a valuable part of a general education. The selection of a major field usually depends on a student's cultural or vocational interests.

## GENERAL PROGRAM

The General Program is designed for the student whose primary interest is in one of the liberal arts subjects. The subjects in which major

[^41]work is offered are: art, botany, chemistry, economics, education, English, French, geology, German, Greek, history, Latin, mathematics, music, philosophy, physics, political science, psychology, religion, sociology, Spanish, zoology.

## SPECIALIZED PROGRAMS

The student who has chosen a vocation may wish to include specialized training in his program. The following programs of study in preparation for various professions or professional schools are outlined for the guidance of the student.

## BUSINESS

The student who plans to engage in some form of business may choose his major work in economics or he may take the following specified courses to satisfy the requirements for the major and related work.

Freshman Year: Economics 11 (recommended but not required), Mathematics 5 and 16.
Sophomore Year: Economics 51-52, Economics 57-58, Political Science 61-62.
Junior and Senior Years: Economics 138, Economics 143, Economics 144, Economics 153, Economics 171-172 or Economics 105 and 158, Economics 181-182, Economics 189. Three hours of the economics courses shown in Economics Major Section B.

In addition to the courses specified above, 9 semester hours from other courses in the Department of Economics and Business Administration must be elected.

A student planning to take the examination to qualify as a Certified Public Accountant may, with the permission of the Department of Economics, substitute courses in accounting (including Economics 184) for courses 11, 138, 144, 189, and for 3 semester hours of the electives in Section B (p. 90).

## RELIGIOUS WORK

A student who plans to enter the ministry or other religious work should have a broad liberal arts training. He may major in religion or any other subject. It is suggested that the student include in his program as many as possible of the following courses.

Freshman Year: Religion 1-2, History 1-2.
Sophomore Year: Religion (6 s.h.), Economics 51-52 or Political Science 6162, English Literature ( 6 s.h.).
Junior Year: Religion (6 s.h.), Psychology 91-92, English 151-152.
Senior Year: Religion (6 s.h.), Sociology (6 s.h.), Philosophy (6 s.h.). SOCIAL WORK
The student who plans to pursue professional studies in preparation for social work (such as family welfare, child welfare, public welfare, probation and parole and similar forms of neighborhood and community work) should take his major work in sociology, with related work in
other social sciences. The following courses should be included:
History 1-2, or 51-52.
Economics 51-52.
Political Science 61-62.
Psychology 91-92.
Philosophy (6 s.h.).
Zoology is recommended for the required course in Natural Science. Electives should be chosen mainly from history, economics, political science, education, sociology, philosophy, psychology, or religion.

## TEACHING

The program for students who intend to teach is designed to prepare for positions both in the elementary school and in the high school. All prospective teachers, regardless of the type of school in which they expect to teach, (a) must take a sequence of four basic courses in the Department of Education, namely, Education 84, 88, 103, and 118; (b) should read carefully the certification requirements of the state in which they plan to teach and should arrange their programs with their departmental adviser accordingly; and (c) should begin early the required sequence of courses in education, taking Education 84 and/or 88 first, preferably in the first semester of the sophomore year.

High School Teaching. Students may meet certification requirements by qualifying in one teaching subject, but they are strongly advised to choose their electives to meet requirements in two teaching subjects. In any case their programs must include courses in education and in other subjects sufficient to satisfy the certification requirements of the state in which they will teach. Courses in materials and methods should be reserved for the senior year; and courses in observation and practice teaching may be taken only in the senior year.

Elementary School Teaching. Students preparing to teach in the elementary school must complete the following specific requirements: Education 142, History 91 or 92, and Political Science 63 or 61-62, Economics 115-116, Music 151, Physical Education 102, and Health Education 112. Education 101-102 (which includes observation and practice teaching) should be reserved for the senior year.

## PREPARATION FOR GRADUATE SCHOOL

The student who plans to enter a graduate school of arts and sciences for advanced study should consult an adviser in the field of the proposed advanced study concerning suitable preparation. Most graduate schools have definite requirements in foreign languages for all students. Candidates for the degree of Doctor of Philosophy are required to pass reading examinations, usually in German and French. In some cases other languages may be substituted. As soon as practicable, the student should ascertain the requirements of the particular graduate school he desires to enter.

PREPARATION FOR LAW SCHOOL
Students who plan to study law may select their major work in any field. The following courses are recommended:

Economics 51-52, 57-58.
English 55-56.
History 1-2 or 51-52, 105-106.
Philosophy 48 and 91.
Political Science 61-62.
Sociology 91-92.
Advisers for the pre-legal students are: Mr. Frank de Vyver, Mr. J. H. Hallowell, and Mr. W. B. Hamilton.

## PREPARATION FOR MEDICAL OR DENTAL SCHOOL

Students planning to enter a medical or dental school should select the following foundation courses for the study of medicine:

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Chemistry 1-2, 61, 151-152.
English 55-56.
Mathematics 5, 6.
Physics 51-52.
Zoology 1-2, 53.
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Pre-medical and pre-dental students may take their major work in a single department, or they may satisfy the requirement for the major and related work by the completion of at least 13 semester hours chosen from the following courses in addition to the 48 semester hours of foundation courses above:

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Botany 101 or Zoology 110.
Chemistry 70.
Mathematics 51, 52.
Physics 101-102.
Psychology 91-92.
Zoology 92, 171.
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Other science courses numbered above 100 may be substituted for these with the approval of an adviser for the pre-medical group and the Dean. When the major work is in science, electives in social sciences or humanities are recommended. It is advisable to choose German or French as the foreign language. Each pre-medical student should ascertain the requirements and recommended courses of the medical school that he expects to attend.

Advisers for the pre-medical students are: Mr. C. C. Hatley, Mr. Mychyle W. Johnson, and Mr. Charles K. Bradsher.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE

For graduation with the degree of Bachelor of Science, the following course work must be completed in accordance with the academic regulations as stated on pages 138-142 of this Bulletin.
Uniform Course Requirements ..... s.h.
English Composition ..... 6
French and German (second college year) ..... 12-24
Mathematics ..... 6
Natural Science ..... 8
Economics, History, or Political Science ..... 6
Religion ..... 6
Physical Education ..... 4
Major and related work ..... 48
Electives to make a total of ..... 124

These requirements are described below. Descriptions of courses can be found under "Courses of Instruction, Trinity College and the Woman's College" on pages 88-127 of this Bulletin.

English Composition, 6 s.h.-This requirement is met by the completion of English 1 and 2. Students who demonstrate proficiency in English usage may be allowed to substitute a course in English literature for English 1.

French and German.-Bachelor of Science candidates must complete at least the second college year, or equivalent as determined by examination, of both French and German.

Mathematics, 6 s.h.-This requirement may be met by completion of Mathematics 5 and 6.

Natural Science, 8 s.h.-This requirement can be satisfied by courses in one of the natural sciences, namely, botany, chemistry, geology, physics, and zoology. The courses must include laboratory work, and may not be counted as part of the major or related work.

Economics, History, or Political Science, 6 s.h.-A student who does not present for entrance two acceptable units of history (exclusive of other social work) must take a course in history ; otherwise, he has his choice of economics, history, or political science. The courses that will satisfy this requirement are listed under "Courses of Instruction."

Religion, 6 s.h.-To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 101, 103, 114, 181, 182, 183, or Philosophy 99.

Major and Related Work, 48 s.h.-Major and related work consists of 48 semester hours in the Natural Sciences. This work must be selected from the departments of botany, chemistry, geology, mathematics, physics, psychology, and zoology. The major work consists of not less than 24 semester hours in one department, the choice of courses being subject to the approval of the department. The major work does not include courses primarily open to freshmen. The related work is taken in at least two other departments and is selected subject to the approval of the major department. It may not include more than one course primarily open to freshmen. A minimum of 14 semester hours of related work is required, 8 hours of which must be in lab.
oratory science. Further information concerning the requirements for the major and related work in the various departments will be found under "Courses of Instruction" (pages 88-127).

Electives.-In addition to the above, the student must elect sufficient courses to complete, with an average grade of "C," the 124 semester hours necessary for graduation.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the Dean of the college.

The total amount of work that a student may take in any one department toward the Bachelor of Science degree is limited to a maximum of 40 semester hours.

On or before the date announced for the spring registration, every sophomore in this group should select his major department in the Natural Sciences and arrange, under the guidance of an adviser in the major department, his program of studies for the following year. He should obtain the adviser's written approval of all courses selected in the division before submitting his program to the Dean for final action. In like manner, each upperclassman will recheck the courses in his division of concentration each year with a representative of his major department.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING

See page 131 of this Bulletin.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING EDUCATION

The requirements for the degree of Bachelor of Science in Nursing Education are designed to prepare qualified graduate nurses for administrative, teaching, and supervisory positions in schools of nursing and in nursing service agencies.

To be eligible for admission to Duke University as a candidate for this degree a student must meet the following requirements:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit. (See specific requirements for admission to Trinity College and the Woman's College.)
2. Graduation from an approved school of nursing which provides satisfactory preparation in medical, surgical, pediatric, and obstetric nursing, as a minimum.
3. Satisfactory scores on specified tests.
4. Supervisory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

Credit for 120 semester hours (exclusive of physical education) on which an average grade of at least " $C$ " is made is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. The program of studies leading to this degree must include:

1. Minimum general education requirements ..... 38-50May be taken at Duke University or at any accredited col-lege or university.
English 1-2 ..... 6
Natural science ..... 8
History, economics, or political science ..... 6
Sociology ..... 3-6
Psychology ..... 3-6
Electives ..... 12-18Literature, art, music, religion, ethics, language aresuggested.
2. Basic Nursing Program maximum ..... 40May be taken at the Duke School of Nursing or at any approvedschool of nursing. The amount of credit which is granted for thenursing school program is determined on an individual basis.
3. Courses in Education and Nursing Education ..... 20
88 Psychological Foundations of Modern Education ..... 3
84 N Social Foundations of Nursing Education ..... 3
101 N The Curriculum of the School of Nursing ..... 3
115N-116N Nursing Education: Principles and Practices ..... 8
117 Community Nursing Service-Seminar in Field Trips of Community Agencies ..... 3
4. Field of Concentration ..................................... 15 Fifteen semester hours in one field, such as chemistry, physics, psychology, sociology, zoology, or in a clinical area and related subjects. No freshman work may be included in these 15 semester hours.
5. Professional Experience

One year of experience as a graduate nurse is required before the degree is awarded.

## COMBINED ACADEMIC-PROFESSIONAL COURSES

The provision whereby a senior may elect the work of the first year in a professional school of the University shall apply solely to eligible students in Trinity College or the Woman's College. The privilege of completing a combined course for the degree is conditioned upon admission to the professional school at the close of the junior year. A student thus admitted registers as a senior in the College and as a first-year student in the professional school.

## ACADEMIC-LAW COMBINATION

A student who has completed, with an average grade of " C " or higher, 96 semester hours of undergraduate work, including the uniform course requirements for the degree of Bachelor of Arts and the work of the junior year in his major and related fields, may, with the approval of the Dean of the College, transfer to the Duke University School of Law and be eligible for the degree of Bachelor of Arts from Duke University upon the satisfactory completion therein of the work of the first year.

It is understood that this provision shall apply solely to eligible undergraduates who have completed three years in residence in Duke University, and that not less than the full first-year's work of the Law School will be acceptable for credit towards the bachelor degree.

No single discipline or program of study can be described as the best preparation for the study of law. There are various methods of approach to legal study. Students differ with respect to the undergraduate studies by which they profit most in preparing themselves for law school.

Completion of the undergraduate work necessary to qualify for the Academic-Law Combination does not insure admission to the Duke University School of Law, nor impose any restriction whatever upon its freedom in selecting students for admission.

The first-year program of the Law School will include in 1950-1951 the following courses:

|  | Fall Semester s.H. | Spring Semester s.ㅍ. |
| :---: | :---: | :---: |
| Chattel Transactions | 2 | 2 |
| Contracts | 3 | 3 |
| Estates in Land |  | 3 |
| Research and Writing I | . 1 | 1 |
| Torts (including some Procedure) | 2 | 3 |
| Legislation | . 3 | - |
| Business Associations I (Agency, Partnership, Introduction to |  |  |
| Corporations) .............. |  | 2 |
| Criminal Law .. | 3 | - |
|  | 14 | 14 |

Students wishing further information are invited to consult with the Dean of the School of Law.

## ACADEMIC-FORESTRY COMBINATION

A student who has completed with an average grade of "C" or higher the program of study given below may, with the approval of the Dean of the College, transfer to the School of Forestry and be eligible for the degree of Bachelor of Science from Duke University upon the satisfactory completion of one year's work. It is understood that this provision shall apply solely to eligible undergraduates who have completed three years in residence in Duke University. The professional degree of Master of Forestry may be obtained on the satisfactory completion of an additional year in the School of Forestry.

The program of studies in preparation for admission to the School of Forestry is divided into four parts: (1) a group of studies required of all students; (2) courses required in a selected division of concentration; (3) additional elective courses sufficient to make a total of at least 92 semester hours of credit; and (4) summer field work in surveying and forest mensuration as described below.

The studies required of all students, of which the first four, together with 6 semester hours of a language, should ordinarily be taken in the freshman year, are as follows:

|  | S.H. |
| :---: | :---: |
| Botany 1-2 | 8 |
| Chemistry 1-2 | 8 |
| English 1-2 | 6 |
| Engineering Drawing 1-2 | 4 |
| Modern Foreign Language* | 12-18 |
| Mathematics 5, 6 | 6 |
| Physics 1-2 | 8 |
| Economics 51-52 | 6 |
| Geology 51 | 4 |

At the end of the freshman year each student shall select a division of concentration. One of the fullowing programs of concentration is recommended:

Botany. Botany 52, 151, 156, one additional course in Botany and Zoology 1.
Chemistry. Chemistry 61, 70, and 151-152; and Botany 151.
Economics. Economics 60, two additional semester courses in economics. and Political Science 61-62.
A student who does not select one of the above programs must complete the work of the junior year in his major and related fields.

Summer field work is required of all students in the School of Forestry. This program of 13 weeks, preferably to be taken upon completion of the junior year, includes Civil Engineering Sllo (Plane Surveying), 4 s.h.; Forestry S150 (Forest Surveying), 5 s.h.; and Forestry S151 (Forest Mensuration), 4 s.h.

Completion of the first three years of work toward the Bachelor of Science degree does not insure admission to the Duke University School of Forestry, nor impose any restriction whatever upon its freedom in seiecting students for admission.

[^42]Students wishing information concerning admission to the School of Forestry are invited to consult with the Dean of that School.

## ACADEMIC-NURSING COMBINATION

A student who graduated from the Duke University School of Nursing in September, 1947, or thereafter, with an average grade of "C" or better, may, upon recommendation of the Dean of the School of Nursing, apply for admission to the Woman's College of Duke University. If accepted, she may obtain the degree of Bachelor of Arts or Bachelor of Science by fulfilling the requirements of either degree.

Forty semester hours of credit toward the 120 semester hours (exclusive of physical education) required for the Bachelor's degree are allowed for the three-year nursing program. At least 30 semester hours, of which 24 semester hours must be in courses numbered 100 or above, must be taken in residence in the Woman's College. An average grade of "C" or better is required for all work.

The program of studies leading to the degree of Bachelor of Arts must include:

s.H.

1. Uniform Course Requirements .......................... 47-59
English 1-2 ................................................ 6
Language (completion of the third college year) ...... 6-18
Natural Science ................................................... 11
Religion :........................................................... . . . 6
Social Science and History .................................. 12
Literature, Music, Art, and Philosophy .................. 6
2. Basic nursing program .................................... 40
3. Field of concentration ......................................... 12
At least 12 semester hours in one department other than
nursing in courses not primarily open to freshmen ... 12
4. Electives . ..................................................... 9-21

To be eligible for the degree of Bachelor of Science, a student must complete the course of study outlined under the Requirements for the Degree of Bachelor of Science.

## COURSES OF INSTRUCTION TRINITY COLLEGE AND THE WOMAN'S COLLEGE

Note: Courses primarily for freshmen are numbered from 1 to 49; those primarily for sophomores are numbered from 50 to 99 ; those primarily for juniors and seniors from 100 to 199; those primarily for seniors and graduates from 200 to 299. The amount of credit for each course is given in semester hours following the description of the course.

Odd-numbered courses are offered in the fall semester, and even-numbered courses are offered in the spring semester. Double numbers indicate that the course is a year-course and must normally be continued throughout the year if credit is received. A student must secure written permission from the instructor in order to receive credit for either semester of a year-course.

This is a condensed description of courses. For a full description see the Bulletin of Undergraduate Instruction.

## COURSES OPEN PRIMARILY TO FRESHMEN

Air Science 1-2
Art 1-2
Botany 1-2
Chemistry 1-2
Economics 11, 12
Education 1
English 1-2
French 1-2, 3-4
German 1-2, 3-4
Greek 15
Health Education 41
History 1-2

Latin 1-2, 3, 4
Mathematics 1, 5, 6, 15, 16
Music 1-2, 11-12, 47-48
Naval Science 101, 102
Philosophy 48, 49
Physical Education 1, 2
Physics 1-2
Political Science 21-22
Religion 1-2
Spanish 1-2, 3-4
Zoology 1-2

## AESTHETICS, ART, AND MUSIC

PROFESSOR KATHARINE E. GILBERT, CHAIRMAN; ASSISTANT PROFESSOR SUNDERLAND, DIRECTOR OF UNDERGRADUATE STUDIES IN ART; ASSOCIATE PROFESSOR HALL, SUPERVISOR OF FRESHMAN INSTRUCTION IN ART; ASSISTANT PROFESSOR JULIA W. MUELLER, DIRECTOR OF UNDERGRADUATE STUDIES IN MUSIC; ASSISTANT PROFESSOR BONE, SUPERVISOR OF FRESHMAN INSTRUCTION IN MUSIC; ASSISTANT PROFESSORS JENKINS, KLENZ, MARKMAN, EARL, MUELLER, SEVILLE, AND WITHERS; MR. SIBLEY

## AESTHETICS

FOR SENIORS AND GRADUATES
201-202. The Philosophy of Art.-6 s.h.
Professor Gilbert
213-214. History of Aesthetics. -6 s.h.
Professor Gilbert
ART
1-2. History of Art. -6 s.h.
51-52. History of Art.-6 s.h.
Associate Professor Hall Assistant Professor Markman
53-54. Theory of Representation and Design.-6 s.h.
Assistant Professor E. Mueller, Mr. Sibley
55-56. Art Laboratory.-Prerequisite: Art 54-54, or consent of the instructor. 4 s.h.

Assistant Professor E. Mueller, Mr. Sibley

61-62. Architectural History and Design.-6 s.h.
Associate Professor Hall
94. American Art.-3 s.h. Assistant Professor E. Mueller, Mr. Sibley
101. Mediaeval Architecture.-3 s.h. Assistant Professor Sunderland 102. Mediaeval Painting and Sculpture.-3 s.h.

Assistant Professor Sunderland 103. Renaissance and Baroque Architecture: Italy.-3 s.h. Associate Professor Hall.
104. Renaissance and Baroque Architecture: Spain and the North.-3 s.h. Associate Professor Hall
105. European Architecture since 1700 . - 3 s.h.

Associate Professor Hall
106. Architecture of the Americas.-3 s.h. Associate Professor Hall
110. English Architecture.- 3 s.h. Associate Professor Hall
123. Renaissance Painting: Italy.-3 s.h.

Assistant Professors Jenkins and Sunderland
124. Baroque Painting: Italy.-3 s.h.

Assistant Professors Jenkins and Sunderland
125. Renaissance Painting: The North.-3 s.h.

Assistant Professors Jenkins and Sunderland
126. Baroque Painting: The North. -3 s.h.

Assistant Professors Jenkins and Sunderland
127. Renaissance and Baroque Sculpture: Italy.-3 s.h.

Assistant Professors Jenkins and Sunderland
130. Painting since 1700 . -3 s.h.

Assistant Professors Jenkins and Sunderland
150. Survey of Painting.- 3 s.h.

Assistant Professors Jenkins and Sunderland 157-158. Advanced Laboratory in Art.-Prerequisite: Art 55-56. 4 s.h. Assistant Professor E. Mueller, Mr. Sibley
215. Religious Art of the Ancient Near East.-3 s.h.

Assistant Professor Markman
216. Religious Art of the Classical World.-3 s.h.

Assistant Professor Markman
217. Aegean Art.-3 s.h.

Assistant Professor Markman
Assistant Professor Markman

## DEPARTMENTAL MAJOR IN ART

Prerequisite: Art 1-2 or 51-52 or 61-62.
Major Requirements: Art 53-54, and 18 additional semester hours in the Department.

## music <br> THEORY

11-12. Fundamentals of Music (Theory I). -8 s.h.
Assistant Professor Klenz
61-62. Fundamentals of Music (Theory I).-8 s.h.
Assistant Professor Klenz

73-74. Harmony and Smaller Forms (Theory II).-Prerequisite: Music 11-12 or 61-62. 6 s.h.

Assistant Professor Klenz
117-118. Advanced Harmony and Counterpoint (Theory III).-Prerequisites: Music 11-12 or 61-62, and 73-74. 6 s.h. Assistant Professor Klenz
121. Conducting.-Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h.

Assistant Professor Bone
122. Orchestration.-Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h.

Assistant Professor Bone
125. Piano Ensemble.-Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 1 s.h. Assistant Professor Withers

## HISTORY AND CRITICISM

1-2. Introduction to Music.-6 s.h.
Assistant Professor Withers
51-52. Introduction to Music.-6 s.h. Assistant Professor J. Mueller
81-82. History of Music.-Prerequisites: Music 1-2 or $51-52$, or $11-12$ or 61-62, or consent of the instructor. 6 s.h. Assistant Professor Saville

131-132. Orchestral Literature.-Prerequisites: Music 1-2 or 51-52, or consent of the instructor. 6 s.h.

Assistant Professor Bone
135. Piano Literature.-Prerequisites: Music 1-2 or $51-52$, or consent of the instructor. 3 s.h.

Assistant Professor Withers
137. Chamber Music.-Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. 3 s.h. Assistant Professor J. Mueller
138. Contemporary Music.-Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. 3 s.h. Assistant Professor Klenz

141-142. Choral Literature.-Prerequisites: Music 1-2 or 51-52, or 81-82, or consent of the instructor. 6 s.h. Assistant Professor Saville

## MUSIC EDUCATION

101-102. Vocal Methods.-Prerequisites: Music 11-12 or 61-62, or consent of the instructor. 6 s.h.

Assistant Professor Saville
103-104. Instrumental Methods.-Prerequisites.- Music 11-12 or 61-62, or consent of the instructor. 6 s.h. Assistant Professor Bone
106. Piano Methods and Materials.-Prerequisites: Music 11-12 or 61-62, or consent of the instructor. 3 s.h. Assistant Professor Withers

151-152. Fundamentals of Music for Education Students.-6 s.h.
Assistant Professor Saville

## APPLIED MUSIC

Members of the Department offer instruction in the following media: A. Piano; B. Strings; C. Woodwinds; D. Brass.

A student who plans to take Applied Music should consult with the appropriate faculty member as early as possible before registering for the course offered in his chosen medium at his class level. His proficiency before registration is tested by audition and rated as Grade I-VIII. Upon satisfactory completion of the course his proficiency is again rated, and his Grade recorded as a Roman numeral following the course number; e.g., a freshman who passes the first semester course in Piano with a proficiency rating of Grade VI is recorded as having completed Music 47A-VI, a senior who passes the first semester course in Violin with a proficiency rating of Grade II is recorded as having completed Music 197B-II, and so on. This is in addition to the customary letter-grades recorded for students in all courses.

> 47A-48A. Piano.-Freshmen only. 2 s.h.
> Assistant Professors Saville and Withers

97A-98A. Piano.-Sophomores only. 2 s.h.
Assistant Professors Saville and Withers
147A-148A. Piano.-Juniors only. 2 s.h.
Assistant Professors Saville and Withers
197A-198A. Piano.-Seniors only. 2 s.h.
Assistant Professors Saville and Withers
47B-48B. Strings.-Freshmen only. 2 s.h.
Cello: Assistant Professor Klenz
Violin, Viola: Assistant Professor J. Mueller
97B-98B. Strings.-Sophomores only. 2 s.h.
Cello: Assistant Professor Klenz
Violin, Viola: Assistant Professor J. Mueller
147B-148B. Strings.-Juniors only. 2 s.h.
Cello: Assistant Professor Klenz
Violin, Viola: Assistant Professor J. Mueller
197 B-198B. Strings.-Seniors only. 2 s.h.
Cello: Assistant Professor Klenz
47C-48C. Woodwinds.-Freshmen only. 2 s.h.
Assistant Professor Bone
97C-98C. Woodwinds.-Sophomores only. 2 s.h.
Assistant Professor Bone
147C-148C. Woodwinds.-Juniors only. 2 s.h.
Assistant Professor Bone
197C-198C. Woodwinds.-Seniors only. 2 s.h.
47D-48D. Brass.-Freshmen only. 2 s.h. Assistant Professor Bone
97D-98D. Brass.-Sophomores only. 2 s.h. Assistant Professor Bone
147D-148D. Brass.-Juniors only. 2 s.h. Assistant Professor Bone
197D-198D. Brass.-Seniors only. 2 s.h. Assistant Professor Bone
Requirements and Credits: One semester hour of credit is allowed for $1 / 2$ hour of private instruction per week and a minimum of one hour of practice daily, under the particular conditions specified below, and in accordance with standard university practice in grading proficiency. For any number of semester hours of credit in Applied Music, an equal number of hours must be taken in Music Theory or Music History.

Majors in Music Theory must earn 7 semester hours credit in Applied Music. Credit may be reckoned from Grade I.

Majors in Music History and Criticism must earn 8 semester hours credit in Applied Music. Credit may be reckoned from Grade I.

Majors in Music Education must earn 7 semester hours credit in Applied Music, as follows:

General (Choral) majors:
Major medium, reckoned from Grade III.-5 s.h.
Minor medium, reckoned from Grade I.-2 s.h.
Instrumental majors:
Major medium, reckoned from Grade III.-5 s.h.
Minor medium, reckoned from Grade I.-2 s.h.
Piano proficiency through Grade II.

Students other than Music Majors may receive not more than 8 semester hours credit for work in Applied Music. Credit may be reckoned from Grade I.

Fees per Semester: Fees for instruction in Applied Music include rental of practice facilities sufficient to meet the credit requirements. They are payable to the Treasurer's Office of Duke University at the beginning of each semester, as follows:

$$
\text { One } 1 / 2 \text { hour lesson per week for } 15 \text { weeks.................... . } \$ 40.00
$$

Either
One hour's daily use of cubicle with piano................... 15.00
Or
One hour's use daily of cubicle without piano................ 10.00
deyartmental major in music
Prerequisite: Music 11-12 or 61-62.
Major Requirements: Music 81-82, and 22 additional semester hours in the Department. The major student will select, in consultation with his Departmental Adviser, a sequence of Music courses emphasizing (a) theory, or (b) history and criticism, or (c) education, or (d) the use and understanding of a particular medium.

## DEPARTMENTAL ORGANIZATIONS

Students taking Applied Music are urged by the Department to participate in one or more of the following departmental organizations:

> Duke University Symphony Orchestra
> Duke University Chamber Orchestra
> Duke University Concert Band
> Duke University Madrigal Singers

## AIR SCIENCE

PROFESSOR SWITZER, COLONEL, USAF ; ASSISTANT PROFESSOR RAMBEAU, LIEUTENANT COLONEL, USAF; ASSISTANT PROFESSOR BAIRD, MAJOR, USAF;

AND ASSISTANTS
Eligibility Requirements.-All physically qualified freshmen who are citizens of the United States and are enrolled in Trinity College or the College of Engineering are eligible to enroll in the Air Force ROTC (Engineering students see College of Engineering). Veterans with one year or more of military service may be exempted from the freshman and sophomore courses (AS 1-2 or 11-12, AS 51-52 or 61-62).

Air Force ROTC Courses.-Trinity College students pursuing the program will specialize in general administration and supply. Students in the College of Engineering will specialize in Air Installations. The courses are established by the United States Air Force and are approved by the College as electives for all undergraduates. Field or laboratory instruction in leadership, drill and exercise of command is included as a part of all courses to indoctrinate the student in the fundamental principles of command.

## ADMINISTRATION AND SUPPLY

AS 1-2. Principles and Problems of National Defense.-4 s.h.
AS 51-52. Applied Air Power and Elementary Air Force Administration.Prerequisite: AS 1-2 or equivalent. 4 s.h. Staff

AS 101-102. Air Force Administration and Supply.-Prerequisites: AS 1-2 and $51-52$ or equivalent. 8 s.h.

## AIR INSTALLATIONS

AS 11-12. Principles of National Defense and Introduction to Aero-nautics.-6 s.h. Staff
AS 61-62. Applied Air Power and Elements of Air Installations.-Prerequisites: AS 11-12 or equivalent. 6 s.h. Staff

AS 111-112. Air Installations and Maintenance Engineering.-Prerequisites: AS 11-12 and 61-62 or equivalent. 8 s.h. Staff

AS 211-212. Advanced Air Installations.-Not offered in 1950-1951. Prerequisites: AS 11-12 and 61-62 or equivalent, AS 111-112. 2 s.h. Staff

## BOTANY

PROFESSOR BLOMQUIST, CHAIRMAN; PROFESSOR OOSTING, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR ANDERSON, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSOR ADDOMS, SUPERVISOR OF FRESHMAN INSTRUCTION (WOMAN'S COLLEGE) ; PROFESSORS HARRAR, KRAMER AND WOLF ; ASSOCIATE PROFESSOR PERRY; MR. WARREN; AND ASSISTANTS

1. General Botany.-4 s.h.

Staff
2. General Botany.-Prerequisite: Botany 1. 4 s.h. Staff
51. Culture and Propagation of Plants.-Prerequisite: one year of botany. 4 s.h.

Professor Addoms
52. Plant Identification.-Prerequisite: one year of botany. 4 s.h.

Professor Blomquist
55. Morphology and Anatomy of Vascular Plants.-Prerequisite : one year of botany. 4 s.h.

Professor Oosting
101. Principles of Heredity.-Prerequisite: one (high-school or college) course in biology, botany, or zoology. High-school or college algebra recommended. 3 or 4 s.h. Associate Professor Perry
103. General Bacteriology.-Prerequisite: one year of botany or zoology, or equivalent. 4 s.h. Mr. Warren
104. The Structure and Identification of Lower Plants.-Prerequisite : one year of botany. 4 s.h.

Associate Professor Anderson
151. Introductory Plant Physiology.-Prerequisite: Botany 1, 2 or equivalent; one year of chemistry recommended. 4 s.h.

Professor Kramer
156. Plant Ecology.-Prerequisites: Botany 1, 2 and 52, or equivalent. 4 s.h.

Professor Oosting
202. Genetics.-Prerequisites : one year of botany or zoology, or equivalent, and college algebra. 4 s.h.

Associate Professor Perry
203. Plant Cytology.--Prerequisite: one year of botany. 4 s.h.

Associate Professor Anderson
204. Advanced Plant Anatomy.-Prerequisite: Botany 55 or equivalent. 4 s.h. Professor Addoms
216. Botanical Microtechnique.-Prerequisite: two semesters of botany. 4 s.h.

Associate Professor Anderson
221. Structure and Classification of Fungi.-Prerequisite: two semesters of botany. 4 s.h.

Professor Wolf
222. Physiology and Ecology of Fungi.-Prerequisite: Botany 221 or equivalent. 4 s.h. Professor Wolf

225-226. Special Problems.-Students with adequate training may do special work in the following fields:
a. Bacteriology, Mycology, and Plant Pathology. Professor Wolf
b. Cytology. Associate Professor Anderson
c. Ecology. Professor Oosting
Associate Professor Perry
d. Genetics.
e. Morphology and Anatomy of Higher Groups.

Professors Addoms, Harrar, and Oosting
f. Morphology and Taxonomy of Lower Groups.

Professor Blomquist and Associate Professor Anderson
g. Physiology.

Professors Kramer and Addoms
h. Plant Microchemistry.

Professor Addoms
i. Taxonomy of Higher Groups.

Professor Blomquist
j. Senior Seminar.-1 s.h. Staff
252. Advanced Plant Physiology.-Prerequisite : Botany 151 or equivalent; organic chemistry recommended. 4 s.h.

Professor Kramer
255. Advanced Taxonomy.-Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h.

Professor Blomquist
256. Field Ecology.-Prerequisites: Botany 1, 2, and 52 or equivalent. 4 s.h.

Professor Oosting
FOREST BOTANY
224. Forest Pathology.-Prerequisites: Botany 1, 2. 3 or 4 s.h.

Professor Wolf
253. Dendrology.-Prerequisite: one year of botany. 3 s.h.

Professor Harrar
Related courses which may be counted toward a major in botany. Zoology 110. Introduction to Genetics. 2 s.h. Associate Professor Johnson

## DEPARTMENTAL MAJOR

Prerequisites: Botany 1 and 2.
Major Requirements: A minimum of 21 hours of work including courses 52,55 , and 104. The remaining hours may be selected from any other courses in the Department for which the student is eligible, subject to the approval of the Departmental Adviser. All majors are expected to register for Senior Seminar for one semester of their senior year.

## CHEMISTRY

PROFESSOR SAYLOR, EXECUTIVE OFFICER AND DIRECTOR OF UNDERGRADUATE STUDIES: ASSOCIATE PROFESSOR HILL, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSORS BIGELOW, GROSS, HAUSER, LONDON AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHER, BROWN AND HOBBS ; DRS. STROBEL AND WILDER; MR. POWELL AND ASSISTANTS
1-2. General Inorganic Chemistry.-8 s.h.
Associate Professor Hill; Associate Professors Bradsher, Hobbs and Brown ; Drs. Strobel and Wilder; Mr. Powell; and Assistants
61. Fundamentals of Analytical Chemistry.-Prerequisites: Chemistry 1-2, and Mathematics 6 or equivalent. 4 s.h.

Professors Saylor and Vosburgh; Associate Professor Hobbs;
Drs. Strobel and Wilder; Mr. Powell; and Assistants
70. Quantitative Analysis.-Prerequisite: Chemistry 61.4 s.h.

Professors Saylor and Vosburgh; Associnte Professor Hobbs; Drs. Strobel and Wilder; Mr. Poivell; and Assistants
131. Advanced Quantitative Analysis.-Prerequisite: Chem:stry 7i. 3 s.h.

Professors Vosburgh and Saylor ani, Assistant
151-152. Organic Chemistry.-Prerequisite: Chemistry 61. C',urse 151 is prerequisite for 152.8 s.h.

Professors Bigelow and Hauser; Associate Professors Bradsher and Brown ; Dr. Wilder; avd Assistants
206. Elements of Theoretical Chemistry.-Prerequisites: Themistry 70, 151-152, Physics $51-52$ or 1-2 and Mathematics, 6 s.h. With the pesinission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h. Professor Saylor and Associate: Professor Hobbs

215-216. Advancd Inorganic Chemistry.-Prerequisites: Chemistry 70, 151152, and 261-262. 6 s.h. Professor Vosburgh and Associate Professor Hilll
233. Instrumental Analysis.-Prerequisites: Chemistry 70 and one y ear of physics. 2 s.h.

Associate Professor Hobbs; Professors
Vosburgh and Saylor
234. Physico-Chemical Methods of Analysis.-Prerequisites: Chemistry 70 and 261-262; the latter may be taken concurrently. 2 s.h.

Associate Professor Hobbs; Professors Vosburgh and Saylor
236. Theory of Analytical Chemistry.-Prerequisites: Chemistry 70 and 261-262. 1 s.h. Professor Vosburgh
251. Qualitative Organic Analysis.-Prerequisites: Chemistry 70 and 151152. 3 s.h. Professor Hauser and Assistant
252. Advanced Organic Preparations.-Prerequisites: Chemistry 70 and 151-152. 1 or 2 s.h. Associate Professor Brown and Professor Bigelow

253-254. Advanced Organic Chemistry.-Prerequisites: Chemistry 70 and 151-152. 4 s.h.

Professors Bigelow and Hauser
261-262. Physical Chemistry.-Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics 51-52 or equivalent. 6 s.h.

Associate Professor Hobbs and Professor Saylor
275-276. Research.-3 or 6 s.h.
Professors Bigelow, Gross, Hauser, London, Saylor, Vosburgh; Associate Professors Bradsher, Brown, Hill, and Hobbs

DEPARTMENTAL MAJOR
A. For the degree of A.B.

Prerequisites: Chemistry 1-2, Mathematics 6 s.h.
Major Requirements: Chemistry 61, 70, 151-152, and an additional 6 or 7 s.h., which may be satisfied by 261-262 or by 206 together with 2 or 3 s.h. selected from courses 131, 233, and 251. The related work must include one year of Physics.
B. For the degree of B.S.

Prerequisites: Chemistry 1-2, Mathematics 6 s.h.
Major Requirements: Chemistry 61, 70, 131, 151-152, 234, 251, 261-262. The related work must include Mathematics 51-52 and one year of Physics.

## ECONOMICS AND BUSINESS ADMINISTRATION

PROFESSOR HOOVER, CHAIRMAN; PROFESSOR DE VYVER, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS BLACK, HUMPHREY, RATCHFORD, SIMMONS, SMITH, SPENGLER, AND VON BECKERATH; ASSOCIATE PROFESSORS HANNA, LANDON, LEMERT, MACMILLAN, AND SHIELDS; ASSISTANT PROFESSORS ASHBROOK, JOERG, MCKENZIE, AND SAVILLE; MESSRS. BRANDIS, DICKENS, EASTMAN, EMMA, HULL, HYLDBURG, MCCLAIN, MANSFIELD, AND SCHALLER

ECONOMICS
12. American Economic Institutions.-3 s.h.

Professor Smith
51-52. Principles of Economics.-6 s.h.
Staff
103. Transportation.-3 s.h.

Associate Professor Landon
Associate Professor Lemert
107. Conservation.-3 s.h.
132. The Economic History of the United States.-3 s.h.

Professor Smith
138. Business Statistics.-Prerequisite: Mathematics 5 or the equivalent. Offered both semesters. 3 s.h. Associate Professor Hanna
139. Advanced Business Statistics.-Prerequisite: Economics 138 or the equivalent. 3 s.h. Associate Professor Hanna
152. Global Geography.-3 s.h. Associate Professor Lemert
153. Money, Credit and Banking.- 3 s.h.

Professors Ratchford and Simmons; Assistant Professors Ashbrook and Saville
155. Labor Problems.-3 s.h.

Professor de Vyver
161. European Economic Problems.-3 s.h.

Professor Humphrey
169. Economics of Consumption.-3 s.h. Assistant Professor Saville
186. Latin-American Economics.-3 s.h.

Professor Smith
187. Public Finance.-3 s.h.

Professor Ratchford
189. Business and Government.-3 s.h.

Professor Humphrey; Assistant Professor Ashbrook
199. Economic Analysis.-3 s.h. Assistant Professor McKenzie
204. Advanced Money and Banking.-3 s.h. Professor Simmons
215. Economic Systems.-3 s.h. Professor Hoover
216. Economic Functions of the State.-Prerequisite: Economics 215 or its equivalent. 3 s.h.

Professor Hoover
217. Population Problems and Resources.-3 s.h. Professor Spengler
218. Business Cycles.-3 s.h.

Professor Humphrey
Professor Smith
231. Economic History of Europe.-3 s.h.
233. State and Local Finance.-Prerequisite: Economics 187 or consent of instructor. 3 s.h. Professor Ratchford
234. Federal Finance.-Prerequisite: Economics 187 or consent of instructor. 3 s.h.

Professor Ratchford
236. Taxation and Government Finance.-3 s.h. Professor Ratchford

237-238. Statistical Methods.-Prerequisite: Economics 138 or consent of the instructor. 6 s.h. Associate Professor Hanna

241-242. Value and Distribution.-6 s.h.
Professor Spengler
245. Problems of Modern Industrialism.-3 s.h.

Professor von Beckerath
256. Labor Legislation.-Prerequisite: Economics 155, or consent of the instructor. 3 s.h. Professor de Vyver
260. Social Insurance.-3 s.h.

Professor de Vyver
Mr. Eastman
268. Competitive versus Monopolistic Enterprise.-3 s.h.

Professor von Beckerath
280. Advanced Economic Problems.-3 s.h.

BUSINESS ADMINISTRATION
A. ACCOUNTANCY

57-58. Principles of Accounting.-6 s.h.
Staff
60. General Accounting.-3 s.h.

Professor de Vyver; Mr. Emma
171-172. Advanced Accounting.-6 s.h. Associate Professor Shields
173-174. Auditing, Theory and Practice.-Prerequisite: Economics 171-172 and permission of the department. 6 s.h. Associate Professor MacMillan

175-176. C. P. A. Review.--Prerequisite: Economics 171-172 and permission of the department. 6 s.h.

Professor Black
177. Income Tax Accounting.-Prerequisite: Economics 171-172 or permission of the instructor. 3 s.h. Associate Professor Shields
178. Accounting Systems.-Prerequisite: Economics 171-172 or permission of the instructor. 3 s.h. Associate Professor Shields
180. Government Accounting.-Prerequisite : Economics 57-58 and permission of the instructor. 3 s.h.

Associate Professor Shields
275-276. Advanced Industrial Accounting and Management.-Prerequisite: Economics 171-172 and permission of the department. 6 s.h.

Professor Black; Assistant Professor Joerg
B. COM MERCE AND INDUSTRY
11. Economic Geography.-3 s.h. Associate Professor Lemert
105. Industrial Management.-3 s.h. Associate Professor Landon
109. The Economic Geography of Latin America.-3 s.h.

Associate Professor Lemert
115. Fundamentals of Geography.-3 s.h. Associate Professor Lemert
116. Principles of Economic Geography.-Prerequisite: Economics 115. 3 s.h.

Associate Professor Lemert
118. Economic Geography of the South.-3 s.h.

Associate Professor Lemert
120. Economic Geography of the Pacific.-3 s.h.

Associate Professor Lemert
143. Corporation Finance.-3 s.h.

Assistant Professor Joerg
Though not a prerequisite, Economics 57-58, Principles of Accounting, or Economics 60, General Accounting, are recommended to students electing this course.

## 144. Investments.-Prerequisites: Economics $57-58$ or 60 , and 143. 3 s.h. Assistant Professor Joerg <br> 158. Insurance. - 3 s.h. <br> 168. Marketing.-3 s.h.

181-182. Business Law.-6 s.h.
184. Commercial Law for Accountants.-3 s.h.

Professor Black; Mr. Hyldburg
188. Personnel Management.-Prerequisite: Economics 155. 3 s.h.

Professor de Vyver

## DEPARTMENTAL MAJOR

A major in economics requires the following election of courses:
A
Economics 51-52. Principles of Economics.
Economics 60, or 57-58. Principles of Accounting.
Economics 138. Business Statistics.
Economics 153. Money, Credit and Banking.
Mathematics 5.

## B

Eighteen semester hours in junior and senior courses in economics (not business administration) of which six semester hours are restricted to the following group of courses:

Economics 199. Economic Analysis.
Economics 204. Monetary and Banking Theory.
Economics 215. Economic Systems.
Economics 217. Population Problems.
Economics 218. Business Cycles.
Economics 231. Economic History of Europe.
Economics 234. Federal Finance.
Economics 245. Modern Industrialism.
Economics 256. Labor Legislation.
Economics 265. International Trade.
Students majoring in Economics are restricted by the general Faculty Regulation which limits course work in Economics and Business Administration to 54 semester hours with not over 36 semester hours in either of the department's subdivisions "economics" and "business administration."

## EDUCATION

PROFESSOR PROCTOR, ACTING CHAIRMAN; PROFESSOR CARR, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR EASLEY, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS CHILDS AND NAHM; ASSOCIATE PROFESSORS BOLMEIER, RUDISILL AND STUMPF; ASSISTANT PROFESSORS INGLES AND MOSER; AND ASSISTANTS

1. Orientation in Study and Study Habits.- 3 s.h.

Mr. Walton
6. A Laboratory Course in Reading.-Non-credit.

Associate Professor Rudisill
54. Introductory Course in History of Education.-3 s.h.
[Not offered in 1950-51]
68. Mental Hygiene of the School Child.-3 s.h. $\begin{aligned} & \text { Associate Professor Easley }\end{aligned}$
84. Social Foundations of Education.-3 s.h.

Assoclate Professor Stumpf and Mr. Slay
Note: Courses S4. S8, 103, and 118 constitute a sequence of 12 hours in Education required of all prospective teachers. Students who intend to teach in the elementary school should conier with Professor Carr. and students who intend to teach in the secondary school should confer with Professor Childs, in order to work this sequence into their schedules. See courses under Nursing Education for modified sequence of courses for students preparing to teach in schools of nursing.
88. Educational Psychology: Learning and Measurement.-3 s.h.

Assoctate Profes:or Easley and Miss Farthing See note following course 84 .
101-102. Elementary Education: Principles and Practice.-8 s.h.
Professor Carr AND Assistants
A. Integrated Art in the Public School.-

Mrs. Mason
B. Industrial Art in the Public School.-

Mrs. Mason
[Not offered unless as many as eight students enroll.]
103. Organization and Management of the School.-3 s.h.

Assoclate Professors Bolmeier and Rudisill,
See note following course $\delta 4$. and Professor Proctor
105. Introduction to Educational Sociology.-3 s.h. Professor Childs

115-116. Secondary Education: Principles and Practice.-8 s.h.
Professor Childs And Assistants
118. Education Psychology: Psychological Development.-Prerequisite:
three semester hours in psychology or educational psychology. 3 s.h.
See note following course 84. Associate Professor Easley
128. Tests and Measurements in Personnel Work.-3 s.h.
132. Materials and Methods in Health Education.-3 s.h.

Professor Aycock
136. The Teaching of High-School English.-3 s.h.

Assistant Professor Jordan
142. Children's Literature.-3 s.h.

Professor Carr asd Associate Professor Rudisill
166. Materials and Methods in Teaching Romance Languages. -3 s.h. Associate Professor Dailis
176. Materials and Methods in High-School Science.-Prerequisite: at least 18 hours of science in college. 3 s.h.

Professor Kramer
185. The Teaching of Religion and Ethics.-3 s.h.

Associate Professor Crum
203. Principles of School Administration.-Prerequisite: six semester hours in education. 3 s.h.

Associate Professor Bolmeier
205. Curriculum Problems in Secondary Education.-3 s.h.
[Not offered in 1950-51]
Professor Childs
206. Sociological Foundations of the Secondary School Subjects.-Prerequisite: general sociology or approved work in education, including course 105. 3 s.h.

Professor Childs
207. Technique of Teaching. -3 s.h.
[Not offered in 1950-51]
Professor Carr

208A. Mental Tests and Applications.-Prerequisite: course 258 or six semester hours of other work in educational psychology or psychology. 3 s.h.

Associate Professor Easley
208B. Mental Tests and Applications.-2 s.h.
Associate Professor Easley
209. Statistical Methods Applied to Education.-3 s.h.

Associate Professor Easley
212. Psychology of the Elementary School Subjects.-3 s.h.
[Not offered in 1950-51] Professor Carr
213. Problems in the Organization and Administration of the Elementary School.-3 s.h.

Professor Proctor
214. History of Education in the United States.- 3 s.h.
[Not offered in 1950-51]
215. Educational and Vocational Guidance.-Prerequisite: 12 semester hours in the Department, including course 105 or course 206. 3 s.h.

Professor Childs
216. Psychological Principles of Secondary Education.-3 s.h.

Professor Childs
222. The Curriculum and Materials of the Elementary Grades.- 3 s.h.
[Not offered in 1950-51]
Professor Carr
225. The Teaching of History and the Social Studies.- 3 s.h.

Professor Manchester
227. The Psychology of Learning: Problems.-3 s.h.

Associate Professor Easley
228. The Psychology of Learning: Theoretical and Experimental.-Prerequisite: course 227 or its equivalent. 3 s.h. Associate Professor Easley
232. Supervision of Instruction.-3 s.h.
233. Administrative Pupil-Accounting.-3 s.h.
[Not offered in 1950-51]
234. Secondary-School Organization and Administration.-3 s.h.

Associate Professor Bolmeier
237. The Psychology and Teaching of Reading.-3 s.h.

Associate Professor Rudisill
238. Remedial Reading-Principles and Practice.-3 s.h.

Associate Professor Rudisill
244. Studies in the Historical Development of Public School Administration. -3 s.h.
[Not offered in 1950-51]
246. The Teaching of Mathematics.- 3 s.h.

Professor Rankin
[Not offered unless enrollment justifies.]
247. Investigations in Arithmetic.-3 s.h.
[Not offered in 1950-51]

## 253. Legal Phases of School Administration.-3 s.h. <br> Associate Professor Bolmeier

258. Educational Measurements.-Prerequisite: 12 semester hours in the Department, including a course in educational psychology. 3 s.h.
259. Recent Movements in American Education.-3 s.h.
[Not offered in 1950-51]

## NURSING EDUCATION

Students preparing for administrative, teaching, or supervisory positions in schools of nursing must take, in addition to other courses, substantially the same basic program of work in Education as do prospective secondary school teachers, namely, courses $84,88,103,115-116$, and 118 . (Course 101 below is substituted for course 103 in this program.) Courses 84 N and $115-116 \mathrm{~N}$ are sections of courses 84 and 115-116, respectively, designed especially for nurses.)

## 84N. Social Foundations of Nursing Education.-3 s.h.

Professor Nahm 101. The Curriculum in the School of Nursing.-3 s.h. Professor Nahm 115N-116N. Nursing Education: Principles and Practice.-8 s.h.

Professor Nahm
117. Community Nursing Service.-3 s.h. Assistant Professor Massey 120. Nursing Education: Problems in Nursing Care. -3 s.h.

Professor Nahm
124. Nursing Education: Teaching of the Nursing Arts.-3 s.h.

Professor Nahm
130N. Psychosomatic Nursing.-4 s.h. Assistant Professor Moser 131N-132N. Psychiatry and Psychiatric Nursing.- 8 s.h.

Assistant Professor Moser
133N. Seminar in Psychiatric Nursing.-3 s.h.
Assistant Professor Moser
193. Ward Administration and Teaching.-3 s.h.

Assistant Professor Ingles
195. Personnel Work in Schools of Nursing.-3 s.h. Professor Nahm

## DEPARTMENTAL MAJOR

A major in the Department of Education consists of 24 semester hours of work above the freshman year, not including any work listed as primarily for freshmen, and including at least 6 semester hours of courses limited to seniors or to seniors and graduates. Before graduation, majors in the Department must have credit for at least one course in educational psychology, and one course in history and philosophy of education, or in educational sociology. The remainder of their work may be elected from courses listed for sophomores, juniors, and seniors, provided at least 6 semester hours of the course work are taken from courses listed for seniors and graduates, and provided that not more than 6 semester hours may be of courses numbered below 100.

## ENGLISH

PROFESSOR IRVING, CHAIRMAN; ASSOCIATE PROFESSOR SANDERS, ACTING DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR BOWMAN, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSORS BAUM, BRINKLEY, GLLBERT, GOHDES, HUBBELL AND LEARY; VISITING PROFESSOR FOERSTER; ASSOCIATE

PROFESSORS BEVINGTON, BLACKBURN, MITCHELL, PATTON, AND
WARD; ASSISTANT PROFESSORS BEVINGTON, HARWELL, JORDAN, Kliger, POTEAT, REARDON, SCHWERMAN, SUGDEN, WETHERBY, WHITE, AND WILLIAMS; DRS. CHURCH

AND ROBBINS ; MESSRS. CANINE, GUILDS, HUNTing, KENNEDY, LEE, REECE, REES, RUNKEL, STONE, AND WILSON; MRS. BRAVERMAN
L. English Fundamentals. -3 s.h.

## Assistant Professor Jordan; Messrs. Canine, Hunting, Lee, and Rees

1-2. English Composition.-6 s.h.
Associate Professors Bevington, Blackburn, Bowman, Patton, Sanders, and Ward; Assistant Professors Bevington, Harwell, Jordan, Kliger, Poteat, Sugden, White, and Williams; Drs. Church, and Robbins; Messrs. Canine, Guilds, Hunting, Kennedy, Lee, Reece, Rees, and Stone; Mrs. Braverman
33. Writing Laboratory.
53. English Composition. -3 s.h. 65-66. English Composition.-6 s.h.

Assistant Professor Jordan
Assistant Professor Jordan Associate Professor Sanders Assistant Professor Harwell and Mr. Kennedy 101-102. Expository English Composition.- 6 s.h. Associate Professor Mitchell 103-104. English Composition.-6 s.h. Associate Professor Blackburn 107-108. Journalism.-6 s.h. Assistant Professor Sugden
133. Verse-Writing.-3 s.h.
[Not offered in 1950-51]

## SPEECH AND DRAMA

105-106. Playwriting.-6 s.h.
Assistant Professor Reardon [105 only will be offered in 1950-51, in the second semester.]
118. Persuasive Speaking.-Prerequisite: English 151 or consent of the instructor. $3 \mathrm{~s} . \mathrm{h}$.
119. History of the Theatre. 3 s.h.

121-122. Play Production. -6 s.h.
Assistant Professor Reardon
Assistant Professor Reardon
139. The Speaking Voice.-'3 s.h.

Assistant Professors Schwerman and Wetherby
150. Oral Interpretation of Literature.-3 s.h.

Assistant Professor Schwerman
151. Essentials of Public Speaking.-3 s.h.

Assistant Professors Schwerman and Wetherby; Messrs. Runkel and Wilson
152. Argumentation.-Prerequisite: English 151 or consent of the instructor. 3 s.h. Assistant Professor Wetherby

ENGLISH AND AMERICAN LITERATURE AND LANGUAGE
55-56. Representative Writers.-6 s.h.
Associate Professors Bevington, Blackburn, Bowman, Patton, Sanders, and Ward; Assistant Professors Bevington, Kliger, Poteat, and Sugden; Drs. Church and Robbins; Messrs. Canine, Hunting, and Rees; Mrs. Braverman 63-64. Introduction to English Poetry.-6 s.h. Associate Professor Mitchell 111-112. Eighteenth-Century Literature.-6 s.h. Assistant Professor Kliger 117. Milton.-3 s.h. Professor Brinkley 123-124. Shakespeare.-6 s.h. Associate Professors Bowman and Ward; Assistant Professor Williams
125-126. English Literature, 1789-1832.- 6 s.h.
Associate Professor Patton and Assistant Professor White 129-130. English Novel.-6 s.h. Associate Professor Mitchell 131-132. English Literature, 1832-1900.-6 s.h.

Associate Professors Bevington and Sanders
134. Contemporary Poetry.-3 s.h. Assistant Professor Bevington
135. Major Works of the Victorian Period.-3 s.h.

Associate Professors Bevington and Sanders
137-138. American Literature.-6 s.h.
Professors Hubbell, Gohdes and Leary: Dr. Robbins
142. Materials and Methods of Teaching High-School English.-3 s.h.

Assistant Professor Jordan
143-144. English Literature: Elizabethan and Seventeenth Century.-6 s.h.
Associate Professor Blackburn
153-154. Comparative Literature.- 6 s.h.
Professor Irving
155. Modern European Drama.-3 s.h. Assistant Professor White
156. Modern British and American Drama.-3 s.h.

Assistant Professor White
Professor Leary
158. Contemporary Fiction.-3 s.h.
160. English Literary Biography.-3 s.h. Associate Professor Sanders 161-162. Modern English and Its Backgrounds.-6 s.h. [Not offered in 1950-51]
165. American Fiction.-3 s.h. Professor Leary
166. American Fiction.-3 s.h. Professor Leary
168. English Prose, 1790-1830.-3 s.h. Associate Professor Patton

For seniors and graduates
201-202. Anglo-Saxon.-6 s.h. Professor Baum
[Not offered in 1950-51]
203-204. Chaucer.-6 s.h. Professor Baum
205-206. Middle English.-6 s.h. Professor Baum
215-216. Elizabethan Drama.-6 s.h. Professor Gilbert
217. Milton.-3 s.h.
[Not offered in 1950-51]
Professor Gilbert
218. Spenser. - 3 s.h.

219-220. The Eighteenth Century.-6 s.h.
221-222. English Literature of the Early Nineteenth Century.-6 s.h.
Visiting Professor Foerster
223-224. English Literature of the Later Nineteenth Century.-6 s.h.
[Not offered in 1950-51]
Professor Baum
227. Literary Criticism.-3 s.h.

229-230. American Literature, 1800-1870.-6 s.h.
Professors Hubbell and Leary
233-234. American Literature since 1870.- 6 s.h. Professor Gohdes
235. History of American Drama.-3 s.h. Professor Leary
[Not offered in 1950-51]
237. English Drama, 1642-1800.-3 s.h. Associate Professor Ward
[Not offered in 1950-51]
239. Shakespeare Problems.-Prerequisite: English 123-124 or graduate standing. 3 s.h.
[Not offered in 1950-51]
241. Studies in Dryden.-3 s.h. Associate Professor Ward
[Not offered in 1950-51]
247. Literature in Colonial America.-3 s.h.

Professor Leary
248. Literature in America, 1775-1820.-3 s.h.

Professor Leary
249-250. English Literature in the Sixteenth Century.-5 s.h.
[Not offered in 1950-51]
251-252. English Literature in the Seventeenth Century. - 6 s.h.
Associate Professor Ward
269-270. Southern Literature.-6 s.h.
Professor Hubbell
[269 only, offered in second semester]
DEPARTMENTAL MAJOR
Prerequisite: English 1 and 2.
Major Requirements: Twenty-four semester hours in English including the following:

1. Six hours in English 55-56.
2. Six hours in one of five designated period courses (143-144, 111-112, 125-126, 131-132, 137-138).
3. Three hours in one of the major authors, Chaucer, Shakespeare, or Milton (203-204, 123, 124, 117).
4. Nine hours, distributed as follows:
(a) Three hours of English literature before 1800. Students who have chosen 143-144 or 111-112 for the period course may substitute any three hour course approved by their adviser.
(b) Three hours of English literature after 1800. Students who have chosen 125-126 or 131-132 for the period course may substitute any three hour course approved by their adviser.
(c) Three hours of American literature. Students who have chosen 137-138 for the period course may substitute any three hour course approved by their adviser.
Related work: Eighteen semester hours which may include appropriate courses in history, aesthetics, art, music, languages, literature in translation, philosophy, or courses in composition, dramatics, and speech. Related work must be taken in at least two departments.

Electives: Students may use 12 hours of their free electives for additional work in English and American literature. The maximum credit in such courses may not exceed 36 hours. A total of 54 semester hours credit in the department is allowed. Students who are looking forward to graduate work should take as many of the period courses as possible. No more than five seniors may be admitted to any course on the 200 level.

## FORESTRY

Students without a Bachelor's degree who are preparing for work in forestry as a profession should take the courses outlined under the AcademicForestry Combination (see pages $86-87$ ). However, with the consent of the instructor in charge, certain forestry courses may be elected by students in other curricula provided they have had adequate preparation (see Bulletin of the School of Forestry).

Members of the sophomore, junior, and senior classes, whether or not registered in the Academic-Forestry Combination, may elect the following course :
52. Principles of Forestry.-2 s.h.

Professor Thomson
[Not offered in 1950-51]
GEOLOGY
PROFESSOR BERRY; MR. DORT
51. General Geology.-4 s.h.

Professor Berry
52. General Geology.-Prerequisite: Geology 51. 4 s.h. Professor Berry
55. Structural Geology.-Prerequisite: Geology 51, 52. 3 s.h.
58. Geomorphology.-Prerequisite: Geology 51, 52. 4 s.h.

101-102. Mineralogy.-Prerequisite: Chemistry 1-2 (can be taken concurrently). 8 s.h.

Professor Berry
151. Economic Geology.-Prerequisite: Geology 101-102. 4 s.h.
152. Introductory Paleontology.-Prerequisites: Geology 51, 52, and Zoology 1. 4 s.h. Professor Berry
164. Introduction to Geologic Mapping.-Prerequisites: Geology 51-52, 55. 151. 3 s.h.

## DEPARTMENTAL MAJOR

Prerequisites: None for Geology 51. Chemistry 1-2 for Geology 101-102; Zoology 1 for Geology 152.

Major Requirements: Geology 51, 52, 55, 101-102, 151, 152, 164.
Geology 58 may be elected.
GERMANIC LANGUAGES AND LITERATURE
PROFESSOR VOLLMER, CHAIRMAN; ASSISTANT PROFESSOR MAXWELL, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR WILSON, SUPERVISOR OF FRESHMAN INSTRUCTION ; ASSOCIATE PROFESSOR SHEARS;

MR. HOFEN, MR. YATES
1-2. Elementary German. -6 s.h.
Assistant Professor Maxwell and Staff
3-4. Intermediate German.-6 s.h.
Associate Professor Wilson and Staff
51-52. Introduction to German Literature.-6 s.h.
Professor Vollmer and Staff
107-108. Scientific German.-6 s.h.
Associate Professor Wilson; Assistant Professor Maxivell
109-110. German Prose Fiction.-6 s.h. Associate Professor Wilson
111-112. Introduction to the Classic Drama.-6 s.h.
Associate Professor Wilson
115-116. German Drama of the Nineteenth Century.-6 s.h.
Associate Professor Wilson
117-118. German Conversation.-6 s.h.
Professor Vollmer; Assistant Professor Maxwell
119-120. German Literature in English Translation.-6 s.h.
Professor Vollmer
121-122. Schiller.-6 s.h. Assistant Professor Maxwell
123-124. Modern German Short Story.-6 s.h.
Associate Professor Shears
125-126. Contemporary German Literature.-6 s.h.
Associate Professor Shears
127-128. Survey of Modern German Literature.-6 s.h.
Professor Vollmer
131-132. Introduction to Goethe.-6 s.h. Assistant Professor Maxivell
201-202. Goethe.-6 s.h.
203-204. Eighteenth Century.-6 s.h. Professor Vollmer
205-206. Middle High German.-6 s.h. Professor Vollmer
207-208. German Romanticism.-6 s.h. Professor Vollmer
209-210. Kleist, Grillparzer, and Hebbel.- 6 s.h.
211-212. Heinrich Heine and Young Germany.-6 s.h. Professor Vollmer
213-214. Literature of the Empire, 1871-1914.-6 s.h.
Associate Professor Shears

## DEPARTMENTAL MAJOR

1. Prerequisites: German 1-2 and 3-4.
2. Major Requirements: Twenty-four semester hours in the German Department. Twelve of these must be selected from the 200 courses. The remaining twelve may be selected from German 51-52 and any courses in the 100 group except 119-120.

## GOVERNMENT

See courses listed under Political Science.

## GREEK

ASSISTANT PROFESSOR TRUESDALE, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION ; ASSISTANT PROFESSOR WAY
1-2. Course for Beginners.-6 s.h. Assistant Professor Truesdale
53-54. Xenophon.-6 s.h.

| 105-106. Homer. -6 s.h. | Assistant Professor Rose |
| :--- | :--- |
| 107-08. Euripides.-Sophocles.-Aristophanes.- 6 s.h. |  |
| 15. Mythology. -3 s.h. | Assistant Professors Truesdale and Way |

115-116. Sight Reading in Greek.-4 s.h.
Assistant Professor Truesdale
117-118. Greek Prose Composition.-3 s.h. Assistant Professor Rose
121-122. Greek Literature in English Translation.-6 s.h.
Assistant Professors Rose and Truesdale
141-142. Greek Art.-6 s.h.
Assistant Professor Way
131. History of Greece.-3 s.h.

Assistant Professor Way
203-204. Homer.-Pindar and Bacchylides. 6 s.h.
Assistant Professor Truesdale
207-208. Greek Orators.- 6 s.h.
Assistant Professor Way
209-210. Plato.-6 s.h. Assistant Professor Way
243. Athenian Topography.-3 s.h. Assistant Professor Way
244. Greek Epigraphy.-3 s.h.

Assistant Professor Way
245. Greek Dialects.-3 s.h.
246. Greek Historical Inscriptions.-3 s.h.

247-248. Greek Archaeology.-6 s.h.
Assistant Professor Way
Assistant Professor Way
Assistant Professor Way

## DEPARTMENTAL MAJOR

Prerequisites: Greek 1-2.
Major Requirements: A candidate for a major in Greek must complete 24 semester hours, including the following Courses: Greek 53-54, 105-106, $107-$ $108,117-118$, and 131 .

Graduates of Duke University may attend the American School of Classical Studies at Athens, Greece, without charge for tuition, and are eligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archacology and one in the language, literature. and history of ancient Greece. each with a stipend of $\$ 1,300$. They are awarded mainly on the basis of examinations held in the beginning of February of each y'ear.

## HEALTH AND PHYSICAL EDUCATION TRINITY COLLEGE AND COLLEGE OF ENGINEERING

Mr. CAMERON, DIRECTOR; MESSRS. AYCOCK, bly, CALDWELL, CHAMbERS, COOMbS, cox, falcone, gerard, hagler, harrison, hedstrom, hendrix.
hendrickson, hill, karmazin, lewis, montfort, parker, persons, wade

SPECIAL METHODS IN PHYSICAL EDUCATION
163. Athletic Coaching in Secondary Schools.-Prerequisites: courses 1 and 2. 3 s.h.

Mr. Coombs, Mr. Chambers
164. Athletic Coaching in Secondary Schools.-Prerequisites: courses 1 and 2. 3 s.h. Mr. Wade and Staff
theory and practice in physical education
65. History and Principles of Physical Education.-3 s.h.

Mr. Aycock, Mr. Gerard
172. Recreational Leadership.-3 s.h.

Mr. Gerard
173. Individual Gymnastics.-3 s.h.

Mr. Aycock
182. The Administration of Health and Physical Education in Secondary Schools.-3 s.h.

Mr. Aycock, Mr. Gerard

# 187. School Programs of Physical Education.-3 s.h. <br> Mr. Gerard <br> 190. Protective Practices in Physical Education.-3 s.h. <br> Mr. Chambers woman's College 

PROFESSOR GROUT, CHAIRMAN; ASSOCIATE PROFESSORS BOOKHOUT AND LEWIS; ASSISTANT PROFESSORS HOLTON AND SWASEY; MISS FRANCE, MISS MASON, MISS PAYNE, AND MISS UHRHANE

FRESHMAN YEAR
Physical Education 1, Orientation and Body Mechanics.-First semester. 1/2 s.h.

Freshman Activities.-First semester. 1/2 s.h. Second semester. 1 s.h. SOPHOMORE YEAR
Physical Education Activities.-1 s.h.
JUNIOR YEAR
Physical Education Activities.-1 s.h.
PHYSICAL EDUCATION ACTIVITIES
Dancing: Folk dancing, modern dance, social dancing, square dancing, tap dancing.
Indizidual and dual sports: Archery, badminton, bowling, diving, fencing, golf, life saving, light sports, riding, stunts and tumbling, swimming, tennis.
Team sports: Basketball, hockey, softball, volleyball.
Special developmental activities: Body mechanics, individual physical education, fundamental rhythms, motor skills, posture.

## PHYSICAL EDUCATION THEORY

Students in the High School Teaching Program may receive academic credit for all courses listed below.

Students in the Elementary School Teaching Program may receive academic credit for Physical Education 102, Health Education 41 and 112.

Students in all groups may receive credit for Physical Education 105-106. 108, 114, and Health Education 41, 112, and 62.
101. History and Principles of Physical Education.-2 s.h.

Professor Grout
102. The Teaching of Physical Education in Elementary Schools.-3 s.h.

Assistant Professor Swasey
103. Group Games of Low Organization.-2 s.h.

Assistant Professor Swasey [Offered every other year alternating with P.E. 107.]
105-106. Methods and Materials in Recreation.-6 s.h.
Assistant Professor Swasey
107. The Teaching of Rhythmic Activities.-2 s.h.

Associate Professor Lewis
[Offered every other year alternating with P.E. 103.]
108. Problems in Community Recreation.-3 s.h.

Assistant Professor Swasey
114. Kinesiology.-Prerequisites: Zoology 1 and 2, and Zoology 53. 3 s.h.

Associate Professor Bookhoui
116. Kinesiology.-Prerequisite: Human Anatomy. 3 s.h.

Associate Professor Bookhout
118. Orthopedic and Remedial Physical Education.-2 s.h.

Associate Professor Bookhout
119．Organization and Administration of Physical Education．－2 s．h． Professor Grout
181－182．Methods and Materials in Physical Education．－4 s．h． Associate Professor Leewis and Staff
185－186．Advanced Methods and Materials in Physical Education．－4 s．h． Associate Professor Lewis and Staff
HEALTH EDUCATION
41．Personal Health Problems．－3 s．h．
Miss Uhriane
62．Community Health Problems．－Prerequisite：H．E．41． 3 s．h． Miss Uhreane
112．School Health Problems．－3 s．h．
Miss Uhriane

## REQUIREMENTS FOR TEACHING HEALTH AND PHYSICAL education in public schools

The following requirements have been set up for students in the Teaching Program who wish to qualify as full－time or part－time teachers of Health and Physical Education．These requirements meet the standards of the North Carolina Department of Public Instruction for certification in Health and Physical Education and of most of the other states represented in the student body．Students preparing to teach in any state are advised to check with the department as to specific requirements．

Prerequisites：Zoology 1－2，Health Education 41.
Thirty semester hours，including Physical Education 101，103，107，114，118， 119，181－182，185－186．Health Education 112 and Zoology 53， 142.

Education Requirements：Consult Department of Education．
Students preparing to teach physical education and health on a part－time basis only are advised to take at least the following program：

Prerequisite：Health Education 41.
A minimum of 15 semester hours，including Physical Education 101， 103. 107．119．181－182，Health Education 112.

Education Requirements：Consult Department of Education．

## HISTORY

PROFESSOR LAPRADE，CHAIRMAN；ASSOCIATE PROFESSOR HAMILTON，DIRECTOR OF UNNDERGRADUATE STUDIES；ASSISTANT PROFESSOR FERGUSON，SUPERVISOR OF FRESHMAN IN゙STRUCTION゙；PROFESSORS CARROLL，CLYDE，LAN゙NING，MAN゙ー CHESTER，ROBERT，AND SYDNOR；ASSOCIATE PROFESSORS CURTISS，NEL－ SON，ROPP，AND WOODY；ASSISTANT PROFESSORS ACOMB，PARKER，

STEVENS，AN゙D WATSON ；DRS．COLTON，GIVAN AND HOLLEY
1－2．Historical Background of the World Today．－6 s．h．
Associate Professor Hamilton：Assistant Professors Acomb， Ferguson，and Stelens；Drs．Colton and Givan
E．1－2．The United States in the World Today．－6 s．h．Dr．Holley
51－52．Historical Background of the World Today．-6 s．h．
Associate Professors Curtiss and Ropp：Assistant Professor Parker；Dr．Givan ［Not open to freshmen or to students who have had course 1－2．］
63．Naval History and Elementary Strategy．－3 s．h．
Associate Professor Ropp
67－68．The Background of Modern European Civilization．－6 s．h． Associate Professor Nelson
91. The Development of American Democracy to 1865.-3 s.h.

Assistant Professors Watson and Stevens
92. The Development of American Democracy, 1865 to the Present.- 3 s.h. Assistant Professors Watson and Stevens
105-106. English Constitutional History.-6 s.h.
Associate Professor Hamilton
107-108. Social and Cultural History of England.-6 s.h.
Assistant Professor Ferguson
109-110. Constitutional History of the United States, 1760 to the Present.6 s.h.

Assistant Professor Stevens
113-114. America and the Twentieth Century.-6 s.h.
Assistant Professor Watson
115-116. The Age of Absolute Monarchy and the French Revolution.6 s.h.

Assistant Professor Acomb
123-124. English History.-6 s.h.
Professor Laprade
125-126. Europe in the Nineteenth Century.-6 s.h.
[Not offered in 1950-51] Assistant Professor Parker
127-128. History of Latin America Through the Formation of the National Governments.-3 s.h.

Professor Lanning
128. Inter-American Affairs.-3 s.h.

Professor Lanning
129-130. European Expansion Overseas.-6 s.h.
Professor Manchester [Not offered in 1950-51]
Ancient History.-Greek 131-Latin 131-132.-
135-136. Europe in the Twentieth Century.-6 s.h. Professor Carroll
141-142. The Far East from Commodore Perry to Chiang Kai-shek.6 s.h.
[Not offered in 1950-51]
153-154. The History of the South.-6 s.h. Professor Sydnor
[Not offered in 1950-51]
161-162. Russia from Ivan the Terrible to Stalin.-6 s.h.
Associate Professor Curtiss
FOR SENIORS AND GRADUATES
203-204. The United States, 1850-1900.-6 s.h. Associate Professor Woody
207-208. Social and Cultural History of the United States.-6 s.h.
Professor Robert
209-210. American Constitutional History.-Prerequisites: course 91 and 92. 6 s.h.
[Not offered in 1950-51]
211. The Teaching of History and the Social Studies (Education 225).3 s.h.

Professor Manchester
215-216. The Foreign Policy and Diplomacy of the United States. -3 s.h. [Not offered in 1950-51]

Professor Clyde
217-218. Europe since 1870.-6 s.h.
Professor Carroll
219-220. The History of the European Proletariat.-6 s.h.
[Not offered in 1950-51]
Professor Carroll
221-222. The Age of Renaissance.-6 s.h. Associate Professor Nelson

225-226. The Age of the Reformation.-6 s.h.
[Not offered in 1950-51]
Associate Professor Nelson
227-228. The Napoleonic Empire and Its Aftermath.- 6 s.h.
[Not offered in 1950-51] Assistant Professor Parker
230. The Portuguese Empire and the Rise of Brazil.-3 s.h.

Professor Manchester
231. The Hispanic Colonies of the New World.-3 s.h.
[Not offered in 1950-51]
Professor Lanning
232. The Hispanic American Republics.-3 s.h. Professor Lanning [Not offered in 1950-51]
233. The Cultural and Institutional History of Colonial Hispanic Amer-ica.-3 s.h.

Professor Lanning
234. Political and Social Problems in the Hispanic American Republics.3 s.h.

Professor Lanning
235. War in the Modern World.-3 s.h. Associate Professor Ropp

241-242. Nationalism and Revolutionary Movements in the Far East since 1900.-6 s.h.

Professor Clyde
261-262. Russia in the Twentieth Century.-6 s.h.
Associate Professor Curtiss
263-264. American Colonial History and the Revolution, 1606-1783.-6 s.h.
[Not offered in 1950-51]
Associate Professor Woody

## DEPARTMENTAL MAJOR

Prerequisites: The Introductory Course in History (1-2 or 51-52).
Major Requirements: Students in the General Group desiring to take a major in history are required to elect 24 semester hours in the Department, including six semester hours in the senior year from courses in the 200 group. Students desiring to take the more advanced courses in American history should elect courses 91 and 92 in the sophomore or junior year.

## LATIN AND ROMAN STUDIES

PROFESSOR ROGERS, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION
1-2. Course for Beginners.-6 s.h.
The Staff
3. Cicero's Orations.-Prerequisite: two entrance units of Latin. 3 s.h. The Staff
4. Vergil's Aeneid.-Prerequisite : three entrance units and Latin 57 taken in the semester preceding admission to the course, unless Latin 3 was taken.

3 s.h.
51. Latin Prose.-3 s.h.
52. Latin Poetry.-3 s.h.
53. Sallust and Tacitus.-Prerequisite: Latin $51-52$ or an equivalent. 3 s.h. Assistant Professor Rose
54. Catullus. -3 s.h.
57. Sight Reading in Classical Latin.-1 s.h. Assistant Professor Rose
58. Sight Reading in Medieval Latin.-Prerequisite: at least one of the following courses: Latin $3,4,51,52$, and 57 , or an equivalent. 1 s.h.

Assistant Professor Rose

65-66. Latin Prose Composition.-2 s.h.
101. Tacitus and Suetonius. -3 s.h.
102. Juvenal and Persius. -3 s.h.
103. The Roman Elegiac Poets.
104. Horace: Satires and Epistles.
105. Martial's Epigrams.
106. Letters of Pliny the Younger.
107. Livy: Ab Urbe Condita.
108. Cicero's Letters.
109. Materials and Methods.-Prerequisite: eighteen approved semester hours of college Latin, including courses 51-52, or equivalent courses. Required of students who plan to teach Latin in state high schools. 3 s.h.

Assistant Professor Rose
111-112. Roman Literature in English Translation.-6 s.h.
Assistant Professor Rose
113-114. Roman Civilization.
115-116. Art and Architecture of Ancient Rome.
131-132. History of Rome.-6 s.h.
Professor Rogers
203-204. Roman Epic: Ennius, Vergil, Manilius, Lucan, Flaccus, Statius, Silius.-6 s.h.

205-206. Roman Drama.-6 s.h.
207-208. Roman Philosophy.
209-210. Vulgar Latin: Introduction to Romance Philology.
211-212. Roman Oratory.-6 s.h.
Professor Rogers
215. Roman Art and Archaeology.
216. Topography and Monuments of Ancient Rome.

DEPARTMENTAL MAJOR
Prerequisites: Latin 1-2, 3-4, or acceptable equivalents.
Major Requirements: Latin 51-52, 53-54, 65-66, six semester hours in courses numbered 101-108, and in the senior year six semester hours in courses of the 200 -group.

Majors are recommended to elect course 131-132, History of Rome.
Majors who contemplate graduate work are reminded of the necessity of Greek, German, and French for such study.

## MATHEMATICS

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PROFESSOR GERGEN, CHAIRMAN; ASSOCIATE PROFESSOR DRESSEL, DIRECTOR OF
    UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR HICKSON, SUPERVISOR
        OF FRESHMAN INSTRUCTION ; PROFESSORS CARLITZ, ELLIOTT, RANKIN,
            ROBERTS, AND THOMAS; ASSISTANT PROFESSOR PATTERSON; DRS.
                ESTILL AND RUDIN; MESSRS. FULTON AND GARRETT;
                    AND ASSISTANTS
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1. Intermediate Algebra.-Prerequisite: one unit in algebra and one unit in geometry. $3 \mathrm{~s} . \mathrm{h}$.

Staff
5. College Algebra.-Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h.

Staff
6. Plane Trigonometry.-Prerequisite: Mathematics 1 , or one and onehalf units in algebra and one unit in geometry. 3 s.h.

Staff
15. Spherical Geometry and Trigonometry.-Prerequisite: Mathematics 5 and 6. 3 s.h.

Staff
16. Mathematics of Investment.-Prerequisite: Mathematics 5. 3 s.h.

Staff
50. Plane Analytic Geometry.-Prerequisite: Mathematics 5 and 6. 3 s.h. Staff
51. Calculus I.-Prerequisite: Must be preceded or accompanied by Mathematics 50.3 s.h.

Staff
52. Calculus II.-Prerequisite: Mathematics 51. 3 s.h. Staff
53. Calculus III.-Prerequisite: Mathematics 52. 3 s.h. Staff
63. Nomography.-Prerequisite: Mathematics 50. 3 s.h.

Professor Thomas
123. Higher Algebra.-Prerequisite: Mathematics 52, or permission of the instructor. 3 s.h. Assistant Professor Hickson
124. Statistics.-Prerequisite: Mathematics 53. 3 s.h.

Assistant Professor Hickson
125. Elementary Theory of Equations.-Prerequisite: Mathematics 53. 3 s.h. Staff
131. Elemenatry Differential Equations.-Prerequisite: Mathematics 52. 3 s.h.

Staff
139-140. Advanced Calculus.-Prerequisite: Mathematics 53. 6 s.h.
Professor Elliott
160. Elementary Solid Analytic Geometry.-Prerequisite: Mathematics 53. 3 s.h.

Staff
FOR SENIORS AND GRADUATES
201. History of Mathematics.-Prerequisite: Mathematics 51. 3 s.h.

Professor Rankin
204. Teaching of Mathematics.-Prerequisite: Must be preceded or accompanied by Mathematics 52. 3 s.h.

Professor Rankin
226. Galois Theory of Equations.-Prerequisite: Mathematics 53. 3 s.h. Professor Thomas

227-228. Theory of Numbers.-Prerequisite: Mathematics 53. 6 s.h.
Professor Carlitz
229-230. Algebraic Numbers.-Prerequisite: Mathematics 125. 6 s.h.
Professor Carlitz
235-236. Abstract Algebra.-Prerequisite : Mathematics 53. 6 s.h.
Professor Carlitz
250. Higher Geometry.-3 s.h.

Professor Thomas
255-256. Projective Geometry.-Prerequisite: Mathematics 53. 6 s.h.
Professor Thomas
258. Finite Differences.-Prerequisite: Mathematics 53. 3 s.h.

Professor Carlitz
271-272. Introductory Topology.-Prerequisite: Mathematics 53. 6 s.h.
Professor Roberts
275. Probability.-Prerequisite: Mathematics 53. 3 s.h.

Associate Professor Dressel.
285-286. Mathematical Analysis for Physicists.-Prerequisite: Matheinatics 53. 6 s.h. Associate Professor Dressel.

291-292. Theory of Functions.-Prerequisite : Mathematics 53. 6 s.h.
Professor Gergen

## DEPARTMENTAL MAJOR

The student who is planning to take his major work in mathematics is advised to consult with the Director of Undergraduate Studies of the Department as early as possible in his college work. The specific major and related work requirements are as follows.
For the A.B. degree:
Prerequisite: Mathematics 5 and 6.
Major and Related Work: 42 semester hours.
Major Requirements: Mathematics 50, 51, 52, 53, and 12 semester hours in courses in Mathematics numbered above 100, exclusive of Mathematics 201, 204. The total amount of work which the student may take in Mathematics toward the A.B. degree is limited to 36 semester hours.

Related Work: 18-24 semester hours of course work, ordinarily in the following departments: chemistry, economics and business administration, philosophy, physics. This work must be approved by the Department of Mathematics through the Director of Undergraduate Studies of the Department. It may include at most one 6 or 8 semester hour introductory course. The work must be taken in at least two departments.
For the B.S. degree:
Prerequisite: Mathematics 5 and 6.
Major and Related Work: 48 semester hours.
Major Requirements: Mathematics 50,51, 52, 53, and 12 semester hours in courses in mathematics numbered above 100, exclusive of Mathematics 201, 204. The total amount of work which the student may take in mathematics toward the B.S. degree is limited to 40 semester hours.

Related Work: 14-24 semester hours of course work in the natural sciences. This work must be approved by the Department of Mathematics through the Director of Undergraduate Studies of the Department. It may include at most one course primarily open to freshmen. A minimum of 8 semester hours must be in laboratory science. The work must be taken in at least two departments.

## MEDICAL SCIENCE

These courses in medical science have been approved by the Faculty Council as appropriate for the Bachelor's degree.
103. Human Physiology.-Prerequisites: Chemistry 1-2 and Zoology 1-2. 6 s.h. Associate Professor McCrea and Staff
109. Anatomy Related to Motion.-Prerequisite: Zoology 1-2. 8 s.h.

Professor Markee and Staff

## NAVAL SCIENCE

PROFESSOR EARLE, CAPTAIN, U. S. NAVY; ASSOCIATE PROFESSOR VAN ARSDALL, COMMANDER, U. S. NAVY; ASSISTANT PROFESSORS BRACKETT, BREWER, COX, AND GUSTAFSON, LIEUTENANTS, U. S. NAVY; AND ASSISTANT PROFESSOR FETTERS, CAPTAIN, U. S. MARINE CORPS
Standardized titles and designators for courses are established by the Bureau of Naval Personnel for use at the 52 NROTC institutions. The first digit
indicates the year of the course; the second digit indicates whether semester or quarter ( 0 for semester. 1 for quarter) ; the third digit indicates the semester or quarter of school year in which offered. Specialized courses for Marine Corps officer candidates are indicated by the letter " M " after the designator, and substitute for the basic course of the same number.

NS-101. Naval Orientation.-3 s.h. Captain Earle, Lieutenant Brewer
NS-102. Naval Orientation.- 3 s.h. Captain Earle, Lieutenant Brewer
NS-201. Naval Weapons. -3 s.h. Lieutenants Brackett and Gustafson
NS-202. Naval Weapons.- 3 s.h. Lieutenants Brackett and Gustafson
NS-301. Navigation.- 3 s.h.
NS-302. Navigation. -3 s.h. $\quad$ Lieutenant Cox and Commander Van Arsdall Cox
NS-302M. History of the Art of War.-3 s.h. Captain Fetters, USMC NS-401. Naval Machinery and Diesel Engines.-3 s.h.

Commander Van Arsdall
NS-401E. Naval Machinery, Ship Stability.-1 s.h.
Commander Van Arsdall
NS-402. Ship Stability, Naval Justice, and Leadership.-3 s.h.
Commander Van Arsdall
NS-401M. United States Military History and Policy.-3 s.h. Captain Fetters, USMC
NS-402M. Amphibious Warfare.-3 s.h. Captain Fetters, USMC
REQUIREMENTS FOR COMMISSION
Naval Science: 24 semester hours.
University courses: Completion of course requirements to qualify for the baccalaureate degree, or higher. These courses must include Mathematics 6, and Physics 1. 2 or 51,52, to be completed by the end of the sophomore year. Physical training must be taken in accordance with University requirements, and each student must include such instruction in swimming as to qualify him as a first class swimmer.

Summer training: Regular NROTC students must participate in three periods of training on board ship or at naval stations. Contract students are required to take one training cruise of three weeks duration, normally between the junior and senior years.

## PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN; ASSOCIATE PROFESSOR MCLARTY, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR WELSH, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS GILBERT, PATTERSON, AND WIDGERY
48. Logic.-3 s.h. $\quad$ (e) Assistant Professor Welsh
49. Ethics.-3 s.h. Professor Gilbert and Assistant Professor Welsh
91. Introduction to Philosophy.-3 s.h.

Professors Gilbert and Widgery; Assistant Professor Welsh
93. History of Philosophy: Ancient and Mediaeval.-3 s.h.

Professor Patterson
94. History of Philosophy: Modern.-3 s.h.

Professor Widgery; Associate Professor McLarty
97. Political and Social Philosophy.-3 s.h.
98. Social Ideals and Utopias.- 3 s.h.
99. Fundamentals of Christian Morality: An Introduction to Christian Ethics.-3 s.h.
103. Logic.-Prerequisite: Philosophy 48. 3 s.h.
104. Scientific Methodology.-3 s.h.
108. Philosophical Ideas in Ancient Greek and Roman Culture.-3 s.h.

Associate Professor McLarty
109. Introduction to Semantic Analysis.-3 s.h.

Assistant Professor Welsh
116. The Development of Philosophy in America.-3 s.h.
117. The History of Ethics.-3 s.h.
121. The Philosophy of Plato.-3 s.h.
199. Philosophy of Religion.-3 s.h.

Professor Negley
Professor Negley

Associate Professor McLarty

## Professor Negley <br> Assistant Professor Welsh

Associate Professor McLarty Professor Patterson

FOR SENIORS AND GRADUATES
201-202. The Philosophy of Art.-6 s.h.
203. Contemporary Ethical Theories.-3 s.h.
205. The Philosophy of History.-3 s.h.
208. Political Philosophy.-3 s.h.

209-210. The Philosophy of Religion.-6 s.h.
Professor Gilbert
Professor Negley
Professor Widgery
Professor Negley
Professor Widgery
211. History of Ancient Philosophy.-3 s.h. Associate Professor McLarty
212. History of Modern Philosophy.-3 s.h.

213-214. History of Aesthetics.- 6 s.h.
Professor Patterson
Professor Gilbert
217. The Philosophy of Aristotle.-Prerequisite : course 93 or 211.

Associate Professor McLarty
Professor Patterson
Professor Patterson
Assistant Professor Welsh
231. Philosophy of Science I.-3 s.h.
236. Oriental Philosophy I.-3 s.h. Professor Widgery
238. Oriental Philosophy II.-3 s.h. Professor Widgery
242. Scientific Methodology.-3 s.h.

## DEPARTMENTAL MAJOR

Prerequisite: Philosophy 48, but this course may be taken concurrently with courses that count toward the major.

Major Requirements: Twenty-four semester hours in philosophy. The program must include:

3 semester hours in the history of ancient philosophy (Course 93 or 211 ).
3 semester hours in the history of modern philosophy (Course 94 or 212)
Philosophy 117 (waived for students who take Course 49).
6 semester hours of work in the 200 series.
The prospective major should consult the director of undergraduate studies.

## PHYSICS

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PROFESSOR NIELSEN, CHAIRMAN; PROFESSOR HATLEY, DIRECTOR OF UNDERGRADUATE
    STUDIES; PROFESSOR CARPENTER, SUPERVISOR OF FRESHMAN INSTRUCTION;
        PROFESSORS GORDY, NEWSON, NORDHEIM, AND SPONER; ASSOCIATE
                        PROFESSOR SMITH; ASSISTANT PROFESSORS GREULING
                            AND LEWIS; MR. BROWN AND ASSISTANTS
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    1-2. Introductory Physics.-8 s.h.
            Professors Carpenter and Hatley and Staff; and Assistants
    51-52. General Physics.-Prerequisite: Mathematics 5-6 or equivalent
    (Mathematics 6 may be taken concurrently). 10 s.h.
Professors Hatley and Carpenter and Staff; and Assistants
101-102. Intermediate Physics.-Mechanics and Heat.-Prerequisites:
Physics 1-2 or 51-52 or equivalent, and a course in differential and integral
calculus which may be taken concurrently. 8 s.h. Professor Nielsen

151-152. Intermediate Physics.-Electricity and Optics.-Prerequisites: Physics 101-102 or equivalent work approved by the instructor and differential and integral calculus. 8 s.h. Assistant Professor Lewis

A course in general college physics, Physics 101-102 or equivalent validated by examination, and a course in differential and integral calculus are prerequisites to all courses numbered 200 and above.

| 201-202. Mechanics.-6 s.h. | Associate Professor Smith |
| :--- | ---: |
| 203-204. Electricity and Magnetism.-6 s.h. | Associate Professor Smith |
| 205. Spectroscopy.-4 s.h. | Professor Sponer |
| 207. Sound and Acoustics.-3 s.h. | Professor Nielsen |

207. Sound and Acoustics.-3 s.h.

Professor Nielsen
[Not offered in 1950-51]
213-214. Contemporary Physics.-6 s.h. Assistant Professor Greuling 217-218. Advanced Physics Laboratory.-2-6 s.h. The Staff
219. Electron Tubes and Their Application.-4 s.h.
220. Electronic Circuit Analysis.-3 s.h.

Professor Gordy or Associate Professor Smith
225-226. Elementary Investigations.-3-6 s.h.
The Staff
DEPARTMENTAL MAJOR
A. For the A.B. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, and Mathematics 5-6.
Major Requirements: Eighteen to 24 semester hours in physics including Physics 101-102 and Physics 151-152 or equivalent.
B. For the B.S. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, Chemistry 1-2 and Mathematics 5-6 or equivalent.

Major Requirements: Not less than 24 semester hours in physics including Physics 101-102 and Physics 151-152 or equivalent.

## POLITICAL SCIENCE

PROFESSOR RANKIN, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES: PROFESSORS COLE, CONNERY, HALLOWELL, WILSON AND VON BECKERATH; LECTURER

ELLIS; ASSOCIATE PROFESSORS SIMPSON AND VAN WAGENEN; ASSISTANT PROFESSORS HANSON, RICHARDS AND TRAVIS; DR. CHEEK ; MESSRS. DEENER AND HATHORN
21. Principles of Government.-3 s.h.

Associate Professor Van Wagenen and Assistant Professor Travis
22. Governmental Problems in International Relations.-3 s.h. Associate Professor Van Wagenen and Assistant Professor Travis 61-62. American Government and Politics.-6 s.h.

Professor Connery; Dr. Ellis; Associate Professor Simpson; Assistant Professors Richards, Hanson; Dr. Cheek; Mr. Deener, Mr. Hathorn
63-64. Modern Constitutional Government.-6 s.h.
Dr. Ellis
111. Survey of Far Eastern Politics.-3 s.h.

Dr. Ellis
112. Contemporary Problems in Far Eastern Politics.-3 s.h. Dr. Ellis 121-122. Elements of International Relations. -6 s.h.

Dr. Ellis; Associate Professor Van Wagenen
125. American Political Parties and Practical Politics.-3 s.h.

Associate Professor Simpson
136. Major European Governments.-3 s.h.

Professors Cole and Hallowell
141. Public Administration.-3 s.h. Assistant Professor Richards
146. Legislation.-3 s.h.

Associate Professor Simpson
151. Latin-American Political Institutions.-3 s.h.

Assistant Professor Travis
152. Latin-American Political Institutions. - 3 s.h.

Assistant Professor Travis
161. Government and Planning.-3 s.h. Assistant Professor Hanson 164. Government Control of Public Utilities.-3 s.h.

Assistant Professor Hanson
174. Politics and Economics.-3 s.h.

Professor von Beckerath
207. American Constitutional Law and Theory.-3 s.h.

Professors Wilson and Rankin
209. State and Local Government in the United States.-3 s.h.

Professor Rankin
211. Political Institutions of the Far East.-3 s.h.
[Not offered in 1950-51]
212. International Politics of the Far East.-3 s.h.
[Not offered in 1950-51]
221. International Public Organization.-3 s.h.

Associate Professor Van Wagenen
223. Political Thought to the Seventeenth Century. - 3 s.h.

Professor Wilson
224. Modern Political Theory.-3 s.h. Professors Wilson and Hallowell
225. Comparative Government.- 3 s.h.
226. Comparative Government.-3 s.h.

227-228. International Law.-6 s.h.

Professor Cole
Professor Cole
Professor Wilson
229. Recent and Contemporary Political Theory.-3 s.h.

Professor Hallowell
230. American Political Institutions.-3 s.h.
231. American Political Theory.-3 s.h.

Professor Rankin
Professor Hallowell
235. The British Commonwealth.-3 s.h.

Professor Cole
241. National Administration.-3 s.h.

Professor Connery
242. Administrative Management.-3 s.h.

Professor Connery
244. Administrative Law.-3 s.h.

Professor Connery
[Not offered in 1950-51]
246. Gevernment Administration and Public Policy.-3 s.h.

Professor Connery
247. Regulatory Administration.-3 s.h.

Professor Connery [Not offered in 1950-51]
252. Spanish-American Constitutionalism.-3 s.h.
271. Sociopolitics and Capitalism.-3 s.h. Professor von Beckerath
291. Municipal Government.-3 s.h.

Professor Rankin
292. Municipal Administration.-3 s.h.

Professor Rankin

## DEPARTMENTAL MAJOR

Prerequisite: Political Science 61-62 or 63-64.
Major Requirements: Eighteen semester hours of work in the Department above courses 61-62 or 63-64, including at least nine semester hours in SeniorGraduate courses.

## PSYCHOLOGY

> PROFESSOR ADAMS, CHAIRMAN; ASSISTANT PROFESSOR GOFFARD, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS DAI, KUDER, LUNDHOLM, RODNICK AND ZENER; ASSOCIATE PROFESSORS BANHAM AND KOCH; ASSISTANT PROFESSORS COHEN, MCHUGII AND REICHENBERG-HACKETT; MR. OHLSON

91-92. General Psychology.-6 s.h. Staff
104. Comparative Psychology.-3 s.h.
106. Abnormal Psychology.-3 s.h.

Professor Lundholm
107. Psychological Analysis of Prominent Characters in Literature. 3 s.h.

Professor Lundhol,m
109. Introductory Social Psychology.-3 s.h.
110. Applied Psychology.-3 s.h.

Mr. Ohlson
111. Advanced General Psychology.-3 s.h. Assistant Professor Goffard
115. Psychology of Personality.-3 s.h.

Assistant Professor Reichenberg-Hackett
116. Psychology of Adjustment.-3 s.h.

Assistant Professor Reichenberg-Hackett
119. Elementary Laboratory Psychology.-4 s.h.

Assistant Professor Goffard
120. Basic Statistical Techniques in Psychology.-3 s.h.

Assistant Professor Goffard
121. Child Psychology.-3 s.h.

Assistant Professor McHugh
126. Adolescent Psychology.-Prerequisite: Psychology 121 or Education 8 or 88 . 3 s.h.

Assistant Professor McHugh
130. Principles in the Evaluation of Behavior Problems.-Prerequisite: Psychology 106. 3 s.h.

Mr. Ohlson
203. Dynamic Psychology: Conation and Our Conscious Life.-3 s.h. Professor Lundholm
206. Social Psychology.-3 s.h.

Professor Adams
207. Psychology of Memory, Thinking, and Perceiving.-3 s.h.

Professor Zener
212. Physiological Psychology.-3 s.h.
215. Developmental Psychology.-3 s.h.
223. Abnormal Psychology.-3 s.h.

Professor Zener
Professor Adams
228. Psychology of Belief.-3 s.h.

Professor Lundholm
Professor Lundholm
231-232. Introduction to Research.
Professors Adams, Lundholm, Zener; Associate Professors
Banham and Koch; Assistant Professors McHugh
and Reichenberg-Hackett
266. Advanced Statistics of Psychological Investigation.-Prerequisite: Psychology 120 or equivalent. 3 s.h.

Professor Kuder

## DEPARTMENTAL MAJOR

Prerequisite: Psychology 91-92 or equivalent.
Major Requirements: 24 semester hours of work in the department including Psychology 91-92, Psychology 119 (Elementary Laboratory), one semester of psychological statistics, and at least 6 semester hours in senior-graduate courses. Related work must include Zoology 1 and 2 or equivalent in biology, and 6 semester hours of sociology or anthropology.

## RELIGION

PROFESSOR MYERS, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS CANNON, HICKMAN, SPENCE, AND STINESPRING; ASSOCLATE PROFESSORS CRUM AND YOUNG; ASSISTANT PROFESSORS BROWNLEE, PHILLIPS AND SPENCE; ASSISTANT PROFESSOR BRADLEY; MESSRS. JONES AND SALES

1. The English Bible.-3 s.h.

Associate Professor Crum; Assistant Professors Brownlee and Spence; Assistant Professor Bradley; Messrs. Jones and Sales
2. The English Bible.-3 s.h.

Assoclate Professor Crum; Assistant Professor Spence; Assistant Professor Bradley; Messrs. Jones and Sales
51. The History of the Hebrew People.-3 s.h.

Professor Myers; Assistant Professors Brownlee and Spence; Assistant Professor Bradley; Mr. Jones
52. New Testament Life and Literature.-3 s.h.

Professor Myers; Assistant Professors Brownlee and Spence; Assistant Professor Bradley; Mr. Jones
91. Fundamentals of Christian Morality: An Introduction to Christian Ethics.-3 s.h.

Associate Professor McLarty
101. The Social Teachings of the Prophets and Jesus. -3 s.h.

Assistant Professor Phillips
102. The Christian Church in the Social Order.-3 s.h.
103. The Prophets of the Old Testament.-3 s.h. Professor Myers
104. The History and Religion of the Jews to the Roman Period.- 3 s.h.

Professor Myers
114. The Life and Teachings of Jesus.-3 s.h. Professor Myers
163. Religious Education of Children.-3 s.h.

Assistant Professor Spence
167. Contemporary Religious Problems.-3 s.h.

Assistant Professor Phillips
168. Masterpieces of Great Religious Literature-3 s.h.

Professor Spence
169. Character Problems.-3 s.h.

Associate Professor Crum
Associate Professor Cruly
170. Religion and the Family.-3 s.h.
171. Introduction to the Psychology of Religion.-3 s.h.

Professor Hickman
181. The Nature and Early Development of Religion.-3 s.h.

Professor Cannon
182. Living Religions of the World.-3 s.h.

Professor Cannon
183. The Religious and Social Contributions of the World's Great Re-ligions.-3 s.h.

Professor Spence and Assistant Professor Bradley
192. Christian Beliefs.-Prerequisite: 3 semester hours of Bible (Religion 1, 2, 51, or 52). 3 s.h.

Assistant Professor Bradley
193. A Study of Materials Suitable for Public School Courses in Religion and Ethics.-3 s.h.

Associate Professor Crum
201-202. First Hebrew.-6 s.h.
Professor Stinespring and Assistant Professor Brownlee
207-208. Second Hebrew. -6 s.h.
Professor Stinespring and Assistant Professor Brownlee
211-212. Hellenistic Greek.-6 s.h. Associate Professor Young
265. Religious Drama.-3 s.h.

Professor Spence
268. Religious Drama Construction and Production.-3 s.h.

Professor Spence

## DEPARTMENTAL MAJOR

Prerequisite: Religion 1-2, or 51-52.
Major Requirements: A major in the Department of Religion consists of 18 semester hours of work, exclusive of courses primarily for freshmen, selected with the approval of the instructor under whose supervision the student does his major work. Six of the 18 semester hours must be in courses with biblical content.

## ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN; PROFESSOR WALTON, DIRECTOR OF UNDERGRADUATE STUDIES IN FRENCH; ASSOCIATE PROFESSOR DAVIS, DIRECTOR OF UNDERGRADUATE STUDIES IN SPANISH; ASSISTANT PROFESSOR DOW, SUPERVISOR OF FRESH-

MAN INSTRUCTION IN FRENCH; MR. PRATT, SUPERVISOR OF FRESHMAN INSTRUCTION IN SPANISH; PROFESSOR COWPER; ASSOCIATE PROFESSOR CASTELLANO; ASSISTANT PROFESSORS ARCHIE AND DEMOREST ; DRS. LEWIS AND LLERENA; MESSRS. NAJAM AND RENTZ; MRS. CASTELLANO, MRS. DOW, MRS. GAULT, MISS MATTHEWS

## FRENCH

1-2. Elementary French.-6 s.h.
Assistant Professors Archie, Demorest and Dow; Dr. Lewis; Mr. Najam
3-4. Intermediate French.-Prerequisite: French 1 and 2 or two years of nigh-school French. 6 s.h.

Professors Cowper, Jordan and Walton ; Assistant
Professors Archie and Demorest; Dr. Lewis; Mrs. Dow; Mr. Najam

51-52. Introduction to French Literature.-Prerequisite: French 3 and 4 or equivalent. 6 s.h. Professors Cowper, Jordan, and Walton; Assistant Professors Dow and Demorest; Dr. Lewis; Mrs. Dow
55. Intermediate Conversation. - 1 s.h.

Mrs. Dow
56. Intermediate Conversation. - 1 s.h.

Mrs. Dow
108. The French Romantic Movement.- 3 s.h.

111-112. French Drama since $1850 .-6$ s.h.
Assistant Professor Dow
113. French Drama of the Seventeenth Century.-3 s.h.
[Not offered in 1950-51]
123. Liberal Thinkers of the Eighteenth Century.-3 s.h.

Assistant Professor Archie
127-128. Advanced Composition and Conversation.-6 s.h. Mrs. Dow
129-130. Great Men and Events in the French Literary Tradition.-Prerequisite: French 51-52. 6 s.h.
[Not offered in 1950-51]
134. Contemporary French Life and Thought.-Prerequisite: French 52 or equivalent. 3 s.h.
213. French Classicism. - 3 s.h.

Professor Walton
214. French Classicism.-3 s.h.

Professor Walton
215-216. The Modern French Novel.-6 s.h.
Professor Jordan
219. Old French.-3 s.h.

Professor Cowper
220. Old French-3 s.h.

Professor Cowper
227. French Poetry since Théophile Gautier.-3 s.h. Professor Walton
[Not offered in 1950-51]
232. Rousseau and the Beginnings of Romanticism.-3 s.h.

Professor Cowper
238. Anatole France. - 3 s.h.

Professor Walton
[Not offered in 1950-51]

SPANISH
1-2. Elementary Spanish.-6 s.h.
Dr. Llerena; Mrs. Castellano, Mrs. Dow, Mrs. Gault, Miss Matthews; Messrs. Pratt and Rentz
3-4. Intermediate Spanish.-Prerequisite: Spanish 1-2 or two years of high-school Spanish. 6 s.h.

Associate Professors Castellano and Davis; Dr. Llerena; Messrs. Pratt and Rentz; Mrs. Castellano, Miss Matthews
65. Introduction to Modern Spanish Literature.-Prerequisite: Spanish 3-4, or equivalent. 3 s.h.

Associate Professors Castellano and Davis; Dr. Llerena; Mrs. Castellano, Mrs. Gault, and Mr. Pratt
66. Introduction to Modern Spanish Literature.-Prerequisite: Spanish 65 or equivalent. 3 s.h.

Associate Professor Castellano; Mrs. Castellano and Mrs. Gault
68. Introduction to Spanish-American Literature.-3 s.h. Staff
71. Intermediate Conversation.-1 s.h.

Mrs. Castellano
72. Intermediate Conversation.-1 s.h. Mrs. Castellano
155. Survey of Spanish-American Literature.-Prerequisite: Spanish 6566 (or 68), or special permission. 3 s.h. Mrs. Gault
156. Survey of Spanish-American Literature.-Prerequisite: Spanish 155, or 65-66 (or 68) with special permission. 3 s.h. Mrs. Gault
173. Advanced Conversation.-Prerequisite: Spanish 66 (or 68) and 71-72, or permission. 3 s.h.

Associate Professor Castellano
174. Phonetics and Diction.-Prerequisite: Spanish 173 or special permission. 3 s.h.

Associate Professor Castellano
257-258. Old Spanish Language and Literature.-6 s.h.
Associate Professor Davis
260. Advanced Composition and Syntax.-Prerequisite: Spanish 173-174 or permission. 3 s.h. Associate Professor Castellano

261-262. Modern Spanish Novel.-Prerequisite: 6 semester hours from courses 155 to 174 inclusive, or 65-66 (or 68) and instructor's permission. 6 s.h. Associate Professor Davis
264. Modern and Contemporary Spanish Theatre.-3 s.h.

Associate Professor Castellano
265. Golden Age Literature: Cervantes.-3 s.h.

Associate Professor Castellano
266. Golden Age Literature: The Drama.-3 s.h.

Associate Professor Castellano

## THE TEACHING OF ROMANCE LANGUAGES

118. The Teaching of Romance Languages (Education 166).-3 s.h. Associate Professor Davis

## DEPARTMENTAL MAJOR

## Prerequisites:

For French: French 51-52, or equivalent.
For Spanish: The completion of Spanish 65-66 (or 68), or equivalent. Major Requirements:

For French: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours in course 127128; (b) six semester hours of literature in courses 213 to 238. Students desiring the recommendation of the Department for the teaching of Romance Languages will take, in addition, course 118.

For Spanish: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours of linguistic training (courses 173-174, 260) ; (b) six semester hours of literature in the courses numbered above 200.

> RUSSIAN
> ASSISTANT PROFESSOR WIENER
> 51-52. Introduction to the Russian Language.- 6 s.h.
> Assistant Professor Wiener
> 53-54. Intermediate Russian Language.-Prerequisite: Russian 51-52 or equivalent. 6 s.h.
> Assistant Professor Wiener
> 63-64. Introduction to Scientific and Medical Russian.-Prerequisite : Russian 51-52 or equivalent. 6 s.h. Assistant Professor Wiener
> [Not offered in 1950-51]
> 101-102. Russian Culture and Literature Through the Nineteenth Century.-6 s.h.
> Assistant Professor Wiener
> 103-104. An Introduction to Soviet Literature and Culture.-6 s.h.
> Assistant Professor Wiener

## SOCIOLOGY AND ANTHROPOLOGY

professor jensen, chairman and director of undergraduate studies; PROFESSORS HART AND THOMPSON ; ASSOCIATE PROFESSOR SCHETTLER; associate professor la barre; assistant professor whitridge
91-92. General Sociology.-6 s.h.
Professor Jensen; Associate Professor Schettler; Assistant Professor Whitridge
101. General Sociology.-5 s.h. each semester.

Associate Professor Schettler

## I. ANTHROPOLOGY

111. General Anthropology.-3 s.h.

Associate Professor La Barre
112. Cultural Anthropology.-3 s.h. Associate Professor La Barre
211. Peoples of the World.--Prerequisite: course 91-92, or 101, or 111 or 112. 3 s.h.

Associate Professor La Barre
212. Primitive Religion.-Prerequisite: course $91-92$, or 101 , or 111 or 112. 3 s.h.

Associate Professor La Barre
213. Personality and Society.-Prerequisite: course $91-92$, or 101 , or 111 or 112. 3 s.h. Associate Professor La Barre
214. Personality and Culture.-Prerequisite: course 91-92, or 101, or 111 or 112. 3 s.h. Associate Professor La Barre

## II. COMMUNITY, RACE AND CULTURE

(Course $91-92$, or 101 , or 111 or 112 prerequisite for all courses.)
133. Sociology of the South.-3 s.h.

Professor Thompson
[Not offered in 1950-51]
134. Human Ecology.-3 s.h.
136. Human Migration.-3 s.h.
[Not offered in 1950-51]
137. The Negro in America.-3 s.h.
233. Rural Sociology.-3 s.h.
[Offered in Summer Session, 1950]
235. Urban Sociology.-3 s.h.
237. Community and Society.-3 s.h.
238. Race and Culture.-3 s.h.
[Offered in Summer Session, 1950]

Professor Thompson
Professor Thompson

Professor Thompson
Professor Thompson

Professor Thompson
Professor Thompson
Professor Thompson
III. COLLECTIVE BEHAVIOR
(Course $91-92$, or 101 , or 111 or 112 prerequisite for all courses.)
149. Introduction to Child Welfare.-3 s.h. Professor Jensen
243. Social Attitudes and Collective Behavior.-3 s.h.

Associate Professor Schettler
246. Public Opinion and Propaganda.-3 s.h.

Associate Professor Schettler
249. Child Welfare.-Prerequisite: course $91-92,101,111$ or 112.3 s.h. [Offered in Summer Session 1950] Professor Jensen
250. Marriage and the Family.-3 s.h.

Professor Hart

## IV. SOCIAL ORGANIZATION AND DISORGANIZATION

(Course $91-92$, or 101 , or 111 or 112 prerequisite for all courses.)
153. The Fields of Social Work.-3 s.h. Assistant Professor Whitridge
157. Social Change and Social Control.-3 s.h.

Associate Professor Schettler
158. Sociology of the Professions and Occupations.- 3 s.h.

Associate Professor Schettler
262. Education and the Cultural Process.-3 s.h. Professor Thompson [Not offered in 1950-51]
271. Social Pathology.-3 s.h.

Professor Jensen
273. Special Problems in Social Pathology.-1 to 3 s.h. each semester.

Professor Jensen
276. Criminology.-3 s.h.

Professor Jensen
277. Juvenile Delinquency. -3 s.h.
[Not offered in 1950-51]

## V. SOCIAL THEORY

(Course $91-92$, or 101 , or 111 or 112 prerequisite for all courses.)
286. Social Ethics.-3 s.h.

Professor Hart
288. Contemporary Problems in Cultural Lag.-3 s.h.

Professor Hart

## VI. METHODS OF SOCIAL RESEARCH

(Course $91-92$, or 101 , or 111 or 112 prerequisite for all courses.)
191. Principles of Social Case Investigation.- 3 s.h.

Associate Professor Whitridge
291. Statistical Methods in Sociology.-3 s.h.

Professor Hart
293. Special Problems in Social Statistics.-1 to 3 s.h. each semester.

Professor Hart

## DEPARTMENTAL MAJOR

Sociology $91-92$ or 101 and twelve additional hours, at least six semester hours of which must be Senior-Graduate courses.

## ZOOLOGY

PROFESSOR GRAY, CHAIRMAN; ASSOCIATE PROFESSOR BOOKHOUT, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR ROBERTS, SUPERVISOR OF FRESHMAN INSTRUCTION ; PROFESSORS HARGITT AND WILBUR; ASSOCIATE PROFESSORS HUNTER, JOHNSON AND WHARTON; ASSISTANT PROFESSORS BAILEY AND HORN; AND ASSISTANTS

UNDERGRADUATE COURSES

1. General Zoology.-4 s.h.

Associate Professors Bookhout and Hunter; and Staff
2. Animal Biology.-Prerequisite: Zoology 1. 4 s.h.

Associate Professor Hunter and Assistant Professor Roberts and Staff
53. Comparative Vertebrate Anatomy.-Prerequisites: Zoology 1, 2. 4 s.h. Associate Professor Johnson and Staff
92. General Embryology.-Prerequisite: Zoology 53. 4 s.h.

Associate Professor Johnson and Staff
109. Evolution.-Prerequisite: two years of zoology. 2 s.h.

Assistant Professor Bailey
110. Introduction to Genetics.-Prerequisite: one year of zoology. 2 s.h. Associate Professors Johnson and Wharton
120. Ornithology.-Prerequisite : one year of zoology. Zoology 53 recommended. 4 s.h.

Assistant Professor Bailey
142. Introduction to Human Physiology.-Prerequisite: Zoology 53. 4 s.h.
152. Comparative Physiology.-Prerequisites: one year of zoology and at least one year of chemistry. 4 s.h. Professor Wilbur
156. Vertebrate Histology.-Prerequisite: Zoology 53. 4 s.h.

Professor Hargitt
161. Animal Parasites.-Prerequisite: one year of zoology. 4 s.h.

Associate Professor Wharton
193. Fundamentals of Zoology.-3 s.h.

Professor Gray
196. Seminar: Current Developments in Zoology.-Prerequisites: Zoology 53,92 , and 152 or 271 . 2 s.h.

Staff
FOR SENIORS AND GRADUATES
202. Helminthology.-Prerequisite : Zoology 161. 4 s.h.

Associate Professor Hunter
204. Advanced Parasitology.-Prerequisite: Zoology 161. 4 s.h.

Associate Professor Wharton
219, 220. Special Problems.-Not more than 4 s.h.
222. Entomology.-Prerequisite: one year of zoology. 4 s.h. Professor Gray
224. Vertebrate Zoology.-Prerequisite: Zoology 53. 4 s.h.

Professor Gray
229. Endocrinology.-Prerequisites: Zoology 53, 92. 4 s.h.
238. Systematic Zoology.-Prerequisites: Zoology 1, 2. 4 s.h. Associate Professor Wharton
253. Advanced Vertebate Morphology.-Prerequisites: Zoology 53, 92. 4 s.h.

Assistant Professor Horn
271. General Physiology.-Prerequisites: two years of biology and at least one year of chemistry. 4 s.h.

Professor Wilbur
274. Invertebrate Zoology.-Prerequisites: Zoology 1, 2. 4 s.h.

Associate Professor Bookhout
276. Protozoology.-Prerequisites: Zoology 1, 2. 4 s.h.

Associate Professor Bookhout
278. Invertebrate Embryology.-Prerequisite: Zoology 92. 4 s.h.

Associate Professor Bookhout
For summer courses in Marine Biology consult the Bulletin of the Duke University Marine Laboratory.

> RELATED COURSES, ONE OF WHICH MAY BE COUNTED TOWARD A MAJOR IN ZOOLOGY

Botany 101. Principles of Heredity. -3 or 4 s.h.
Associate Professor Perry
Botany 103. General Bacteriology.-4 s.h.
Mr. Warren
Botany 202. Genetics.-4 s.h. Associate Professor Perry
departmental major
Prerequisites: Zoology 1 and 2.
Major Requirements: Twenty-four semester hours including courses 53, 92 and 152 or 271 . The remaining twelve hours may be from any other courses for which the student is eligible. Related work, usually chosen from courses in botany, chemistry, geology, mathematics, and physics, must include at least one year of chemistry.

## THE COLLEGE OF ENGINEERING


#### Abstract

ADMISSION Students may qualify for admission to the College of Engineering as members of the Freshman Class or as a student with advanced standing. Since the enrollment in the College is limited, the Committee on Admissions will select the students who, in its opinion, are best qualified to benefit from the educational advantages which the College has to offer. Prospective students and relatives are invited to visit the University and the College of Engineering in particular. This would be advantageous to the applicant, since it would enable him to acquaint himself with the facilities of the University and to discuss possible courses of study.

All correspondence relating to admission of men should be addressed to the Secretary of Duke University, Duke Station, Durham, N. C.


## GENERAL REQUIREMENTS

An applicant for admission to the Freshman Class in engineering must have completed at least fifteen units of preparatory work, partly in required and partly in elective subjects. For a detailed explanation of the units in the table below, see the definitions as set forth by the Southern Association of Colleges and Secondary Schools and other regional associations.

The subjects in which this credit may be offered and the maximum amount of credit acceptable in each subject are given in the following table:

|  |  | UNITS |
| :---: | :---: | :---: |
| English | Botany |  |
| Latin . | Zoology |  |
| Greek | General Biology |  |
| German | Physical Geography |  |
| French | General Science . |  |
| Spanish | Agriculture |  |
| Mathematics | Mechanical Drawing |  |
| History and Civics | Shop Work ....... |  |
| Physics | Art |  |
| Chemistry | Music Commercial Subjects |  |
| Required Units |  |  |
| Seven of the fifteen units required for admission must be: |  |  |
| English |  | units |
| Physical Science |  | unit |
| Algebra |  | units |
| Plane Geometry |  | unit |
| *Solid Geometry |  | unit |

[^43]
## Elective Units

In addition to the above seven required units, sufficient elective units must be offered to make a total of fifteen. At least five of the additional units must be in English, foreign language, history and social studies, mathematics, and natural or physical science. It is recommended that these electives be chosen from the following list:

| English (in addition to the required 3 units) | 1 unit |
| :---: | :---: |
| Algebra (in addition to the required $11 / 2$ units) | $1 / 2$ unit |
| Trigonometry | 1/2 unit |
| Physics or Chemistry or Biology (in addition required unit) | 1 to 3 units |
| Foreign Languages | 1 to 4 units |
| $\dagger$ History or Social Stud | 1 to 3 units |

The three additional units needed to make the total of fifteen may be in the subjects listed above or they may be selected at large from the table under the heading General Requirements.

## ADMISSION BY CERTIFICATE

A graduate of an accredited school, who submits fifteen acceptable units of secondary school subjects, is recommended by his principal, and otherwise meets the requirements of the Admissions Committee, may be admitted without examination. The certification and recommendation must be on blanks furnished by the College and signed by the principal of the school in which the applicant completed his course.

## ADMISSION BY EXAMINATION

Students who present 15 units for admission from schools not accredited by the University, and students who present the proper units but whose grades are not acceptable, are required to validate their units by entrance examinations in English and in mathematics, and such other tests as the University may prescribe.

## ADMISSION TO ADVANCED STANDING

Students may be admitted to advanced standing from other approved institutions under the following conditions: all applicants must have fulfilled the equivalent of the requirements for admission to the Freshman Class, must present official certificates of all work done in other institutions, and must have an honorable dismissal from the institutions they previously attended.

Applicants for advanced standing should present, so far as possible, subjects corresponding to those required at Duke University. Students admitted to advanced standing may not, during their first semester, elect more than the minimum number of hours required of the class which they enter except by permission of the Dean of Engineering.

Students who have transferred from other colleges must, in order to make their provisional classification final, pass during their first year of

[^44] history in college.
residence not less than the equivalent of four year-courses with an average grade of "C" or higher.

## ADMISSION OF SPECIAL STUDENTS

Students of mature age not fully prepared to enter the Freshman Class may be admitted as special students and allowed to enroll for such work as they are prepared to carry. Further, they are required to take 15 hours of classwork a week.

## READMISSION OF FORMER STUDENTS

A student, who, following withdrawal from College, desires to return, should apply to the Committee on Admissions. When applying for readmission the student should make a detailed statement of his or her activities since withdrawal from College.

## PRELIMINARY TESTS AND EXAMINATIONS

General ability and achievement tests are administered to all entering students during an orientation period at the beginning of each semester. These tests enable the appropriate adviser to prepare a course of study adapted to the ability and achievements of the individual student. Physical examinations are given also.

# REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL, ELECTRICAL, OR MECHANICAL ENGINEERING 

## GENERAL STATEMENT

The studies for degrees in Engineering are designed for students who are preparing for civil, electrical, or mechanical engineering as a profession and lead to the following degrees: B.S. in C.E., B.S. in E.E., and B.S. in M.E. All curricula of the College of Engineering are fully accredited by the Engineers' Council for Professional Development.

Credit for 148 semester hours and at least 148 quality points is required for each of these degrees. A grade of " $F$ " carries neither semester hours nor quality points. The work of the senior year (a minimum of 36 semester hours) must be taken in residence. The following course work must be completed with the exceptions noted above in accordance with the academic regulations as stated in this Bulletin.

## GROUPS OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL, ELECTRICAL, OR MECHANICAL ENGINEERING

See the Bulletin of the College of Engineering for courses substituted by Air ROTC and Naval ROTC students in the following curricula.

Uniform Freshman Year

FIRST SEMESTER

| s.H. |  |  |  | s.H. |
| :---: | :---: | :---: | :---: | :---: |
| Math 5 | College Algebra ........ 3 | Math 50 | Analytic Geometry |  |
| Math 6 | Trigonometry .......... 3 | Math 51 | Calculus I |  |
| Chem 1 | Chemistry .............. 4 | Chem 2 | Chemistry |  |
| Engl 1 | English ................. 3 | Engl 2 | English |  |
| Hist E1 | History ................. 3 | Hist E2 | History |  |
| G.E. | Drawing ............... 2 | G.E. 2 | Descriptive Geome |  |
|  | Physical Education ..... 1 |  | Physical Education |  |
|  | 19 |  |  | 19 |

GROUP ONE

## Civil Engineering

Sophomore Year
FIRST SEMESTER


## Junior Year

Eng1 93 Advanced Composition .. 3 Engl 151 Public Speaking ........ 3
G.E. 58 Dynamics ............... 3 G.E. 128 Hydraulics ............... 3
C.E. 131 Structures .............. 5 C.E. 132 Structures ................. 5
C.E. 113 Route Surveying ........ 3 C.E. 118 Materials ................. 3
E.E. 123 Electric Circuits ........ 4 E.E. 124 Electric Machinery ..... 4

18 18

Senior Year
C.E. 123 Water Supply .......... 4 C.E. 124 Water Purification .... 3
C.E. 135 Soils .................... 3 C.E. 116 Highways ............... 3
C.E. 133 Reinforced Concrete ... 4 C.E. 140 Indeterminate Structures 3
M.E. 103 Heat Power ............ 3 C.E. 144 Projects .................. 2
M.E. 115 Mech. Eng. Laboratory 1 M.E. 104 Heat Power ............ 3 Elective (Non- M.E. 116 Mech. Eng. Laboratory 1 Technical) ............. 3

Elective (Non-
Technical)
18

## GROUP TWO <br> Electrical Engineering <br> Sophomore Year

FIRST SEMESTER
SECOND SEMESTER


19

Junior Year

| E.E. | 101 | Circuits | E.E. 102 | Circuits |
| :---: | :---: | :---: | :---: | :---: |
| E.E. | 107 | Circuits Laboratory ... 1 | E.E. 108 | Circuits L |
| E.E. | 105 | Measurements | E.E. 106 | Electronics |
| Math | 131 | Differential Equations . 3 | E.E. 148 | D-C Machinery |
| M.E. | 103 | Heat Power ........... 3 | M.E. 104 | Heat Power |
| M.E. | 115 | Mech. Eng. Laboratory 1 | M.E. 116 | Mech. Eng. |
| G.E. | 128 | Hydraulics . . . . . . . . . . 3 | Eng1 151 | Public Speaking |

## Senior Year

| E.E. 257 | A-C Machinery ........ 3 | E.E. 258 | A-C Machinery ........ 3 |
| :---: | :---: | :---: | :---: |
| E.E. 163 | Machinery Laboratory .. 1 | E.E. 164 | Machinery Laboratory .. 1 |
| E.E. 261 | Communications ....... 4 | E.E. 262 | Communications ........ 4 |
| E.E. 165 | Seminar ................ 1 | E.E. 166 | Seminar |
| E.E. 159 | Transmission .......... 3 | G.E. 107 | Strength of Materials .. 3 |
| E.E. | Elective . ${ }^{\text {a }}$............ 3 | G.E. 109 | Materials Laboratory ... 1 |
|  | Elective (Non- | E.E. | Elective ............... 2 |
|  | Technical) ........... 3 |  | Elective (Non- |
|  | - |  | Technical) ........... 3 |
|  | 18 |  | 18 |

## GROUP THREE

Mechanical Engineering
Sophomore Year
FIRST SEMESTER SECOND SEMESTER

|  | s.ㅍ. |  |  | S.H. |
| :---: | :---: | :---: | :---: | :---: |
| Math 52 | Calculus II ............ 3 | Math 53 | Calculus III |  |
| Phys 51 | Physics ................ 5 | Phys 52 | Physics |  |
| Econ 51 | Economics .............. 3 | Econ 52 | Economics |  |
| G.E. 57 | Statics | M.E. 52 | Kinetics-Mechanism |  |
| M.E. 55 | Steam Engineering ..... 2 | Engl 93 | Advanced Composition |  |
| M.E. 51 | Constructive Processes .. 3 |  | Physical Education |  |
|  | Physical Education ..... 1 |  |  |  |
|  | 20 |  |  |  |

## Junior Year

| M.E. 101 | Thermodynamics ....... 3 | M.E. 102 | Thermodynamics ........ 3 |
| :---: | :---: | :---: | :---: |
| M.E. 113 | Mech. Eng. Laboratory 1 | M.E. 114 | Mech. Eng. Laboratory 2 |
| M.E. 105 | Fluid Mechanics ....... 3 | M.E. 108 | Aeronautics ........... 3 |
| G.E. 107 | Strength of Materials .. 3 | M.E. 106 | Heat Transfer |
| G.E. 109 | Materials Laboratory .. 1 | M.E. 150 | Machine Design |
| E.E. 123 | Electric Circuits ....... 4 | E.E. 124 | Electric Machinery |
| Engl 151 | Public Speaking ........ 3 |  |  |

Senior Year


## COURSES OF INSTRUCTION COLLEGE OF ENGINEERING

## PROFESSOR HALL, DEAN; PROFESSOR BIRD, CHAIRMAN, CIVIL ENGINEERING; PROFESSOR SEELEY, CHAIRMAN, ELECTRICAL ENGINEERING; PROFESSOR R. S. WILBUR, CHAIRMAN, MECHANICAL ENGINEERING; ASSOCIATE PROFESSORS MEIER, REED, AND SNOW; ASSISTANT PROFESSORS EGERTON, HAINES, KENYON, KRAYBILL, LEWIS, PALMER, VAIL, AND WILLIAMS; MESSRS. BROWN, DAVIS, HARDY, HATLEY, HOLLAND, MARTIN, MORGAN, SLAUGHTER, RABIN, L. C. WILBUR, AND WILDER

## GENERAL ENGINEERING

1. Engineering Drawing. -2 s.h.

Staff
2. Descriptive Geometry.-Prerequisite: G.E.1. 2 s.h. Staff
57. Statics.-Prerequisite: G.E. 1, G.E. 2. Mathematics 52 concurrent. 3 s.h.

Staff
58. Dynamics.-Prerequisites: G.E. 57 and Mathematics 52. 3 s.h. Staff 101. Construction Methods.-Prerequisite: Junior standing. 3 s.h.

Mr. Wilder
102. Motion and Time Study.-Prerequisite: Junior standing. 3 s.h.

Mr. Wilder
107. Strength of Materials.-Prerequisite: G.E. 57. 3 s.h. Staff
109. Strength of Materials Laboratory.-1 s.h. Staff
128. Hydraulics.-Prerequisite: G.E. 57. 3 s.h. Staff

## CIVIL ENGINEERING

PROFESSORS BIRD AND HALL; ASSOCIATE PROFESSOR SNOW; ASSISTANT PROFESSORS LEWIS, PALMER, AND WILLIAMS; MESSRS. BROWN, DAVIS, AND WILDER
61. Plane Surveying.-Prerequisites: G.E. 1 and trigonometry. 4 s.h.

Mr. Brown
62. Advanced Surveying.-Prerequisite: C.E. 61. 4 s.h. Mr. Brown
108. Advanced Strength of Materials.-Prerequisite: G.E. 107. 3 s.h.

Assistant Professor Williams
S110. Plane Surveying.-4 s.h.
Staff
113. Route Surveying.-Prerequisite: C.E. 61. 3 s.h.

Assistant Professor Williams
116. Highway Engineering.-Prerequisites: C.E. 113, C.E. 135. 3 s.h.

Assistant Professor Williams
118. Materials of Engineering.-Prerequisite: G.E. 107 or concurrent. 3 s.h. Assistant Professor Williams
120. Engineering Statistics.-3 s.h. Associate Professor Snow
121. Hydrology.-Prerequisite: G.E. 128. 3 s.h.

Associate Professor Snow
123. Water Supply and Sewage.-Prerequisite: G.E. 128. 4 s.h.

Associate Professor Snow
124. Water Purification and Sewage Treatment.-Prerequisite: C.E. 123. 3 s.h.

Associate Professor Snów
128. Industrial Water Supplies.-Prerequisite: Chemistry 1-2. 3 s.h.

Associate Professor Snow
129-130. Elementary Structures.-Prerequisite: G.E. 107. 6 s.h.
Assistant Professor Palmer
131. Structures.-Analysis and Elementary Design.-Prerequisites: G.E. 57, 107. 5 s.h. Assistant Professor Palmer
132. Structures.-Design.-Prerequisite: C.E. 131. 5 s.h.
133. Reinforced Concrete.-Prerequisite: G.E. 107. 4 s.h. Professor Bird
135. Soil Mechanics.-Prerequisite: G.E. 107. 3 s.h. Professor Bird

137-138. Seminar.-2 s.h.
Staff
140. Indeterminate Structures.-Prerequisites: C.E. 131, C.E. 133. 3 s.h. Professor Bird
142. Hydraulic Engineering.-Prerequisite: G.E. 128 or M.E. 105. 3 s.h. Assistant Professor Williams
143-144. Projects in Civil Engineering.-2-6 s.h.
Staff

## ELECTRICAL ENGINEERING

professor seeley, chairman; associate professor meier; assistant professors egerton, kraybill, and vail; messrs. hatley, martin, and slaughter
51. Survey of Electrical Engineering.-1 s.h.

Assistant Professor Kraybill
52. Electric and Magnetic Fields.-Prerequisites: E.E. 51, Mathematics 52. Physics 52 concurrently. 3 s.h. Assistant Professor Vail

101-102. Circuits in Electrical Engineering.-Prerequisite: E.E. 52. Mathematics 131 concurrently. 6 s.h. Assistant Professor Vail 105. Electrical Measurements.-Prerequisite: E.E. 52. Mathematics 131 and E.E. 101 concurrently. 4 s.h. Mr. Slaughter
106. Electron Tubes and Circuits.-Prerequisites: E.E. 101, E.E. 107, E.E. 102 and E.E. 108 concurrently. 4 s.h. Mr. Slaughter 107-108. Circuits Laboratory.-2 s.h.

Assistant Professors Vail and Kraybill
123. Principles of Electric Circuits.-Prerequisites: Mathematics 53 and Physics 52. 4 s.h.

Assistant Professors Kraybill and Egerton ; Mr. Martin
124. Principles of Electric Machinery.-Prerequisite: E.E. 123. 4 s.h. Assistant Professors Kraybill and Egerton; Mr. Martin
148. Direct-Current Machinery.-Prerequisites: E.E. 101 and E.E. 107. E.E. 102 and E.E. 108 concurrently. 3 s.h.

Associate Professor Meier and Mr. Martin
158. Electric-Power Stations.-Prerequisites: E.E. 148, M.E. 104, and permission of instructor. E.E. 257-258 concurrently. Elective for electrical majors. 3 s.h.

Professor Seeley
159. Transmission.-Prerequisites, E.E. 101-102, E.E. 105, E.E. 106, Mathematics 131. 3 s.h.

Professor Seeley
160. High-Voltage Engineering.-Prerequisites: E.E. 52, E.E. 101-102, E.E. 106, and permission of instructor. Elective for electrical majors. 3 s.h. Assistant Professor Vail

## 163-164. Electric Machinery Laboratory.-2 s.h. Associate Professor Meier and Mr. Martin

165-166. Electrical Engineering Seminar.-2 s.h.
Staff
170. Fundamentals of Illumination.-Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, and permission of instructor. 3 s.h.

Assistant Professor Kraybill
173-174. Projects in Electrical Engineering.-3-6 s.h.
Staff
180. Radio-Frequency Transmission and Propagation.-Prerequisites: E.E. 159, E.E. 261, and permission of instructor. 3 s.h.

Mr. Hatley
197. Industrial Applications of Electrical Equipment.-Prerequisite: E.E. 124 and permission of instructor.

Associate Professor Meier
198. Industrial Control--Prerequisites: E.E. 101-102, E.E. 106, E.E. 148, E.E. 257, and permission of the instructor. 3 s.h.

Associate Professor Meier
257-258. Alternating-Current Machinery.-Prerequisites: E.E. 101-102 and E.E. 148. 6 s.h.

Associate Professor Meier and Mr. Martin
261. Communcation Engineering: Low Frequency.-Prerequisites: E.E. 101-102, E.E. 106, and Mathematics 131. 4 s.h. Mr. Hatley
262. Communication Engineering: High Frequency.-Prerequisite: E.E. 261. 4 s.h.

Mr. Hatley
263-264. Operational Circuit Analysis.-Prerequisites: E.E. 101-102, Mathematics 131, and permission of mstructor, 6 s.h. Professor Seeley

## MECHANICAL ENGINEERING

frofessor r. S. WILbur, Chairman; associate professor reed; assistant professor kenyon; messrs. hardy, holland, morgan, rabin, and l. C. wilbur
51. Constructive Processes.-Prerequisite: Chemistry 2. 3 s.h.

Messrs. Holland and Wilbur
52. Kinetics-Mechanism.-Prerequisites: G.E. 2, G.E. 57, Mathematics 52. 4 s.h.

Associate Professor Reed and Mr. Hardy
55. Steam Engineering.-Prerequisite: Chemistry 2. 2 s.h.

Messrs. Morgan and Wilbur
101-102. Engineering Thermodynamics.-Prerequisites: Mathematics 52, Physics 52, M.E. 55. 6 s.h. Professor Wilbur, Associate Professor Reed, Assistant Professor Kenyon

103-104. Heat Power Engineering.-Prerequisites: Chemistry 2, Mathematics 52, Physics 52. 6 s.h.

Assistant Professor Kenyon, Messrs. Morgan and Wilbur
105. Fluid Mechanics.-Prerequisites: M.E. 52, Mathematics 52, Physics 52. Professor Wilbur and Mr. Morgan
106. Heat Transfer.-Prerequisites: M.E. 101 or 103, M.E. 105 or G.E. 128, Mathematics 52. M.E. 102 or 104 concurrently. 3 s.h.

Associate Professor Reed
108. Aeronautics.-Prerequisite: M.E. 105. 3 s.h.

Mr. Morgan

113-114. Junior Mechanical Engineering Laboratory.-Prerequisite: M.E. 55. M.E. 101-102 concurrently. 3 s.h. Professor Wilbur and Staff

115-116. Junior Mechanical Engineering Laboratory-2 s.h.
Professor Wilbur and Staff
150-151. Machine Design.--Prerequisites: G.E. 2, M.E. 52, G.E. 57, M.E. 51, G.E. 107. 7 s.h.

Messrs. Holland and Wilbur
153-154. Heating, Air Conditioning and Refrigeration.-Prerequisites: M.E. 102, M.E. 105, M.E. 10G. M.E. 159-160 concurrently. 6 s.h.

Associate Professor Reed
155. Internal Combustion Engines.-Prerequisite: M.E. 101-102. 3 s.h. Mr. Hardy
157. Centrifugal Pumps and Blowers.- Prerequisite: M. E. 105. 3 s.h. Professor Wilbur
158. Industrial Engineering.-3 s.h. Assistant Professor Lewis
159. Senior Mechanical Engineering Laboratory.-Prerequisite: M.E. 114. M.E. 153 concurrently. 2 s.h.

Professor Wilbur and Staff
160. Senior Mechanical Engineering Laboratory.-Prerequisite: M.E. 159. M.E. 154 and M.E. 162 concurrently. 2 s.h. Professor Wilbur and Staff 162. Power Plant Calculations.-Prerequisite: M.E. 101-102 or 103-104. 3 s.h. Professor Wilbur 164. Engineering Analysis.-3 s.h. Mr. L. C. Wilbur 166. Air Conditioning Design.-3 s.h. Associate Professor Reed 197-198. Projects in Mechanical Engineering.-3-6 s.h.

Professor Wilbur and Staff

# ACADEMIC REGULATIONS 

## ACADEMIC CALENDAR

The undergraduate colleges are operated on the two-semester plan: the autumn semester and the spring semester begin and end in accordance with the published calendar of this bulletin. Two semesters of seventeen weeks each constitute the academic year.

## MATRICULATION, REGISTRATION, AND ENROLLMENT

All new students must appear before the Committee on Admissions and obtain cards of admission which must be presented at the Treasurer's Office at the time of matriculation. All students, both old and new, are required to matriculate at the beginning of each semester and to obtain from the Treasurer certificates of matriculation before they can be registered in classes. Students matriculating in either semester at a date later than that prescribed in this catalogue shall pay to the Treasurer a penalty of $\$ 5.00$ for late registration. Students whose course cards have been approved in the spring in the manner provided below are given an opportunity during the summer to matriculate by mail for the first semester. No student without an enrollment card is admitted to any class. Students who enter after the beginning of the semester are marked absent in the work they have missed in the courses to which they are admitted, and these absences carry the same penalty as do other absences from the courses.

## COURSE CARDS

Members of the freshman, sophomore, and junior classes are required to submit to the Dean, not later than the date of spring registration, cards showing their selection of courses for the following year. These cards must be approved by the Dean. After being approved, the cards must be filed for permanent record in the Dean's office. Students who do not select their courses for the following year at the time appointed must pay a fee of $\$ 5.00$ to the Treasurer of the University before their course cards may be approved in the fall. The same regulations apply for the second semester. An advance deposit of $\$ 25.00$ is required before the spring registration for the fall semester.

Students whose course cards have been approved but who, for reasons not arising within the University, desire to make changes in the cards approved are required to pay to the Treasurer a fee of $\$ 1.00$ for each change made.

No course may be elected later than two weeks after the opening of the semester.

If a student drops a course without permission from the Dean, the grade for that course shall be recorded as "F."

If a student drops with permission a course in which he is failing at
that time, the grade for that course shall be recorded as " $F$ " unless, in the judgment of the Dean, circumstances do not justify this penalty.

## RESIDENCE REQUIREMENT

One year in residence (a minimum of 30 semester hours in the Colleges of Arts and Sciences and 36 in the College of Engineering) is required of all candidates for degrees. The work of the senior year must be taken in residence with the exception that one course of 6 to 8 semester hours in final fulfillment of requirements may be taken in another institution of approved standing, provided the course is approved by the head of the department concerned and by the Dean.

## DEFINITION OF CREDIT

The term of credit used is the semester hour, which signifies one recitation a week throughout the semester. Two or three hours of laboratory work are equivalent to one hour of class work.

## SEMESTER HOURS AND QUALITY POINTS

The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are the points earned by a student, according to his grades: for an "A" three quality points per semester hour ; for a " $B$ " two quality points per semester hour; for a " $C$ " one quality point per semester hour ; for a " $D$ " no quality points; for an " $F$ " a loss of one quality point per semester hour. Credit for 124 quality points is required for the degree of Bachelor of Arts or Bachelor of Science.

## HOURS OF CLASSWORK

The normal course load of an undergraduate student in the Colleges of Arts and Sciences is five academic courses, 14 to 17 semester hours, and the maximum number permitted is 19 semester hours, exclusive of physical education. In the College of Engineering the normal course is six academic subjects and 15 to 18 semester hours, exclusive of physical education. No student is permitted to take less than 14 semester hours work without special permission from the Dean nor to take more than the normal load of work unless his average grade in the preceding semester is higher than "C."

## CLASS STANDING

In the Colleges of Arts and Sciences to rank as a sophomore a student must have to his credit at least 26 semester hours and 26 quality points; as a junior at least 56 semester hours and 56 quality points; and as a senior at least 92 semester hours and 92 quality points. In the College of Engineering he must have, respectively, at least 30 semester hours and 30 quality points; 68 semester hours and 68 quality points; and 106 semester hours and 106 quality points.

## JUNIOR-SENIOR COURSE RESTRICTIONS

In the Colleges of Arts and Sciences no senior may take for graduation credit any course primarily open to freshmen; and no junior may
take for graduation credit more than one course primarily open to freshmen. A list of these courses is published in the Bulletin under "Courses of Instruction."

## SENIOR WORK

A student of the Senior Class, irrespective of his average grade in preceding years, must, in order to be eligible for graduation, complete the work of his senior year with a minimum average grade of " C ".

DEFICIENCIES IN COMPOSITION
The following regulations have been adopted by the Faculty:

1. Any student, who must take English 1 and whose score in the English placement test indicates that he is not yet ready for English 1, must earn a passing grade in English L before being permitted to enter English 1.
2. In the fall of his or her junior year every student of Trinity College and of the Woman's College must take an examination in English usage. The regulation does not apply to students of the College of Engineering, which has special course requirements in English composition in addition to the freshman year. Students with irregular schedules, resulting from acceleration or transfer to Duke after the fall of their junior year, should take the examination in the fall of the year most nearly approximating the fifth semester. Students who prove deficient in this examination will be required to complete satisfactorily a special, non-credit laboratory course in remedial English.
3. Whenever the work of a student in any course is considered to be unsatisfactory because of gross errors in English, the instructor may report the student to the Dean who will require him to enroll in remedial English until, in the opinion of the director, the deficiency is removed.
4. All instructors are requested to advise their students each semester concerning this regulation.

## EXAMINATIONS

Final examinations are held in all subjects in January and May.

## REGULATIONS REGARDING GRADES

Grades shall be reported so as to indicate one of four things:
(1) Passed. A grade of "A," "B," "C," or "D" shall indicate that a student has passed a course. The work of this group of students shall be graded according to the following system: " $A$ ": exceptional; " $B$ ": superior; "C": medium; "D": inferior.
(2) Failed. A grade of " $F$ " shall indicate that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.
(3) Incomplete. (a) A grade of "I" may be reported by the instrucfor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester ; otherwise the " I " is recorded as " F ." and the course must be repeated in class if the student is to receive credit for it.
(4) Absent from Final Examination. (a) The grade " X " shall indicate that the student was absent from the final examination. (b) A student absent from examination, if his absence has been excused by the Dean of the College, may receive an examination upon the payment of a fee of $\$ 3.00$ to the Treasurer of the University. The instructor concerned shall arrange for the examination in cases where absences are excused. (c) All students (with " X " grades), who have not obtained a passing grade before the end of the succeeding semester in which the " X " was incurred, are regarded as having failed in the course concerned and must repeat the work in class in order to receive credit. (d) If a student's absence from an examination is not excused by the Dean of the College, his grade for the course concerned shall be recorded as "F."

## CLASS ATTENDANCE AND ABSENCE REGULATIONS

Regular and punctual attendance in class work is expected of all students. Weekly reports of all absences from class are to be made by each instructor and filed in the Dean's office. No instructor has the authority to excuse a student from class attendance, and it is his duty to report all absences and tardinesses to the Dean's office. The first three tardies in a given course are counted as one absence, and each succeeding tardy is counted as one additional absence.

To provide for absences due to brief illness and other absences for necessary reasons, one absence per semester hour credit may be incurred in each course during each semester.

Absences due to continuous illness of at least four days' duration and authorized absences for representation of the University may be excused provided foresight has been used in previous absences.

Sophomores, juniors, and seniors who, in a normal schedule, make averages of " $B$ " or above in the preceding semester will be allowed two absences per semester hour but will, in all other respects, be subject to the same regulations as other students.

All absences immediately before and after announced holidays are doubled.

For each unexcused excessive or consecutive absence, the student incurs the loss of quality points in proportion to the number of such absences taken; one quality point for the first absence, two for the second, and three for the third. When the third unexcused, excess, or consecutive absence is incurred, the student is debarred from the course with the loss of six quality points.

When a student's course load is reduced, because of unexcused absences, to less than 12 semester hours, he shall be required to withdraw from the University.

## EXCLUSION FOR FAILURE

A student of the Freshman Class to remain in the University must pass at least 6 semester hours of work in his first semester and 18 semester hours in his first year. All other students must pass at least 9
semester hours each semester. A student who is ineligible to re-enter in September is ineligible to enter the Summer Session.

## STUDENTS TRANSFERRING FROM OTHER INSTITUTIONS

Students whose advanced credits from another institution are acceptec by the University will be given one quality point for each semester hour with which they are credited, provided an average of " C " or better is made during the first two semesters in residence.

CANDIDATES FOR ACADEMIC DEGREES
A tentative list of all candidates for the Bachelor's degree shall be prepared under the supervision of the Dean of the College as early in the college year as possible, shall be furnished in copy to each department of instruction for information and reference, and also shall be posted in copy on the official bulletin board of the University for the information of the students concerned.

A final list of all candidates for the degree shall be submitted by the Dean to the Faculty at its first regular meeting in May and shall be adopted by the Faculty as the final list. After the adoption of this list no name may be added to it.

A student who completes in a summer session the work required by the University for the Bachelor's degree will be granted the degree at the end of the summer.

# GENERAL REGULATIONS AND INFORMATION 

## ASSEMBLY AND CLASS MEETINGS

## TRINITY COLLEGE AND THE COLLEGE OF ENGINEERING

The sophomore, junior and senior classes of Trinity College and the College of Engineering are held on call. The freshman classes of these colleges meet weekly; attendance is compulsory.

WOMAN'S COLLEGE
A weekly assembly is held for all students in the Woman's College. The freshman class meets once each week, and other classes meet at appointed times.

Attendance upon all of these meetings is compulsory for all students involved.

## CONDUCT OF STUDENTS

The University expects of its students loyal and hearty co-operation in developing and maintaining high standards of conduct as well as of scholarship. The University therefore reserves the right, and matriculation by the student is a concession of this right, to ask the withdrawal of any student whose conduct at any time is not satisfactory to the University, even though no specific charge be made against the student.

## SCHOLASTIC REGULATIONS FOR ATHLETIC AND OTHER ORGANIZATIONS

The following regulations have been adopted by the Faculty:

1. Any student who receives less than a passing grade on more than six hours of his required work of the preceding term shall be ineligible to represent the University in any athletic contest, concert, or other public event.
2. Members of athletic teams or other student groups engaging in public representation of the University are expected to be carrying satisfactorily their current work. A student may be barred from participation in such representation if, in the opinion of the Dean, he is not passing satisfactorily his current work.

Duke University is a member of the Southern (Athletic) Conference and observes the scholastic requirements of that Conference.

## PUBLICATIONS COUNCIL

The student publications of the University are under the control of a council that was established in 1924 and reorganized by the Executive Committee of the University in 1935, and is constituted as follows: three members from the University Staff appointed by the President of the University; two members from the alumni appointed by the President of the University; six men from the junior and senior classes, elected by
the students in Trinity College and the College of Engineering; four women from the junior and senior classes, elected by the students in the Woman's College; and four editors and four managers of student publications, ex officio members without voting power.

No student publication can be started at the University without the approval of the Council.

## REGULATIONS REGARDING PUBLIC LECTURES AND OTHER PUBLIC OCCASIONS

All public lectures or addresses and other public events that are given under the auspices of the University or of any organization in any way connected with the University are under the supervision of the Faculty Council on Public Lectures. All dates and programs must be approved by this council.
(1) The Council on Public Lectures shall provide each year an official calendar.
(2) All public occasions held on either the East or the West Campus are listed for the Weekly Calendar of Duke University in the office of the Department of Alumni Affairs in the West Campus Union. This calendar appears each Saturday, and such notices must be received by $1: 00$ p.m. on the Thursday preceding.

Social or other events held in the West Campus Union must be listed in the Office of the Director of Alumni Affairs, and permission must be secured for such social use of the public rooms in the building.

## REPORTS

A report of each student's class attendance and his proficiency in academic work is sent to his parents or guardians after the examinations at the end of each semester. Mid-semester reports for freshmen are also mailed to parents.

## ADMINISTRATION OF DISCIPLINE

General oversight of the conduct of students and the administering of discipline are under the supervision of the Vice-President in the Division of Student Life. The duty of immediate supervision, guidance, and control of the students in each college is entrusted to the Dean of that College. However, through the expressed willingness of the students of the University to assume the responsibility of maintaining high standards of morals and honor at all times, the student body has properly become to a great degree self-governing. Two councils, one of men and the other of women, each composed of duly elected representatives of the student body, exercise the authority granted the students to investigate all cases of misconduct, as well as all other cases of violation of proper student standards and traditions, and to make recommendations of penalties based on their findings.

The student councils have been helpful to the administrative authorities of the University. They exert a guiding and stimulating influence for the promotion of high ideals of conduct and of student relationships.

## HEALTH AND PHYSICAL EDUCATION

The program of Health and Physical Education in Duke University has four distinct phases, as follows:

1. Student Health.
2. Physical Instruction.
3. Intramural Sports.
4. Intercollegiate Athletics.

## MEDICAL CARE

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated students of the University, during both the college year and the summer quarter. The cost is included in the general fee paid each semester and in the medical fee charged each student in the summer quarter. The service is under the direction of the University Physician with the co-operation of the Staffs of the Infirmaries (one on each campus) and the University Hospital. It includes hospitalization (limited to thirty days), medical and surgical care, drugs, dressings, X-ray work, and ward, but not special, nursing. The student pays for his board while in the hospital. Refraction of eyes, treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernias, elective surgery, chronic skin conditions, endocrine disturbances, etc., and accidents or illnesses occurring during vacations or while off the campus, are not included in this service. (A commercial accident-expense reimbursement policy is available if desired.) The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the student.

A woman physician is in residence on the Woman's College campus, and a nurse is in constant attendance at the women's Infirmary. Patients in this Infirmary can be transferred to the Duke Hospital at any hour of the day or night. Male students receive ambulant care at the student health office in the hospital building during dispensary hours. Men are admitted to the hospital directly whenever necessary. The emergency service and the specialist consulting services of the Hospital and Medical School are always available.

The medical certificate, required by the Committee on Admissions and sent to all prospective students, gives advice as to certain types of medical and surgical care to be done by the home physician or surgeon prior to the departure of the student for college. The advice concerns such things as the giving of typhoid or smallpox vaccine, removal of diseased tonsils, correction of errors of refraction, repair of a hernia, or removal of a chronic appendix. Important time is frequently lost in correcting these conditions after entrance into college, and the cost of this work must be borne by the student.

When the student comes to the University, he is given a careful physical examination. Any physical defects are recorded along with the record of the questionnaire from the family physician. All students are requested to be successfully vaccinated against smallpox before admission to the University. It is urgently advised that they take typhoid vaccine if they have not done so within three years.

## PHYSICAL EDUCATION AND INTERCOLLEGIATE SPORTS TRINITY COLLEGE AND THE COLLEGE OF ENGINEERING

The men's colleges require all students to engage in some type of physical activity for two years or four full semesters. This work consists of participation in natural, practical, physical activity for at least three one-hour periods each week. A credit of four semester hours is required in physical education for graduation. The purpose of this work is to improve body control and strength through big muscle activities, to stimulate the development of mental and physical alertness, to establish habits of regular exercise, and to give training and experience in various kinds of recreational sports that will be indulged in after the student graduates from the University.

Intramural sports are fostered and promoted in all lines of athletic activity. Meets, tournaments, and leagues are seasonally organized in the different sports. All students in the University are eligible to enjoy the intramural privileges, provided they comply with the intramural rulings. Participation in these activities is entirely voluntary, but they are very popular because they provide an opportunity for every man to enter into competition and recreation in those sports which he enjoys most.

The intercollegiate athletic program is controlled entirely by the University and consists of the organization and training of representative freshman and varsity teams in the following sports: football, basketball, baseball, track, cross country, swimming, lacrosse, wrestling, tennis, and golf.

## WOMAN'S COLLEGE

The Physical Education Department aims to give the students of the Woman's College an appreciation of the value of activity for general physical well-being, skill in one or more activities which can be enjoyed as recreation during and after college, a well-developed and wellcoordinated body, and a knowledge of good posture and efficient handling of the body in everyday activities.

To this end, students are allowed to choose from a large number of activities including individual, dual, and team sports, swimming, and several types of dancing. In order to insure a variety of skills, each student, during her three years of required physical education, must elect one semester's work in each of the following types of activity: individual or dual sports, and dance. All students who are unable to pass the swimming test must take one semester of swimming before graduation. In addition to the two hours per week of activity classes, all freshmen are required to take a course in orientation in physical education and body mechanics, meeting once a week during the first semester.

The Dance Group, the Swimming Club, and the Woman's Athletic Association give opportunities for all students to take part in the types of intramural activities most interesting to them. The swimming pool, tennis courts, and other athletic equipment are available to all students for use at specified times.

## PHYSICAL EDUCATION AND RECREATION FEES

In order to meet certain hygienic aspects of physical education and intramural athletics, the University has made available for all students, in addition to facilities for physical activity and recreation, the following equipment and services:

1. (a) Men. A regulation uniform: shirt, trunks, supporter, socks, sweat clothes, and towel.
(b) Women. Gym suit, dance costume, bathing suit, warm-up suit.
2. Provision for locker and handling of uniform.
3. The laundering of uniform and towel as needed.

The privileges and services listed above are available to all students who pay full fees, so long as they comply with the rules and regulations established for the care and handling of same.

## THE ATHLETIC COUNCIL

The Executive Committee of the Board of Trustees at a meeting held on January 8, 1949, received and considered a report from the Board's standing Committee on Physical Education and Athletics recommending a reconstitution of the Athletic Council. The report recommended that the action of the Board of Trustees at its regular annual meeting in June, 1907, by which it set up an Athletic Council, be rescinded and that a new Athletic Council be created. The Executive Committee adopted the report of the Board's standing Committee on Physical Education and Athletics as follows:

The Athletic Council shall be composed of seven members on the following basis:

Three from the Faculty to be appointed at once by the Executive Committee of the Board of Trustees and thereafter annually at the time of the annual Commencement by the President as follows: one member from the General Administration; one member from the undergraduate colleges division of the educational administration; and one member from the instructional staff of the undergraduate colleges. From this group the President shall appoint the Faculty Chairman, who shall be Chairman of the Athletic Council and its Executive Committee.

Four from the Alumni, one of whom shall be a University Trustee, an alumnus, and a member of the Board's standing Committee on Physical Education and Athletics, who is to be appointed not less frequently than every three years by the Chairman of the Board of Trustees. The remaining three of the Alumni members of the Council shall be elected annually by the general Alumni Association for terms of three years and may not succeed themselves. (For the purpose of giving effect to this limitation as of the 1949 Commencement, one member shall be elected for a term of one year, one for two years and one for three years. In order to immediately reconstitute the

Council, the Executive Committee of the Board of Trustees shall appoint at once the four Alumni members to serve until their successors are elected or appointed at the 1959 Commencement.)

The Director of Alumni Affairs shall ex officio be Secretary of the Athletic Council and of its Executive Committee.

The three Faculty members of the Athletic Council constitute a committee which alone has the responsibility of enforcing the scholarship and athletic requirements of the University for participation in intercollegiate sports. The athletic eligibility rules are those of the Southern Conference.

The Executive Committee of the Athletic Council is composed of the Faculty Chairman of the Council, one other Faculty member of the Council and one Alumni member of the Council. The Executive Committee of the Council recommends to the President of the University persons to serve as Director of Athletics and as coaches in the various sports. The election of such persons however rests solely with the Board of Trustees of the University or with its Executive Committee on recommendation of the President of the University. The Executive Committee of the Council recommends to the Athletic Council athletic schedules and the award of insignia of merit earned by members of the athletic teams. However, decisions with respect to same rest solely with the Athletic Council subject to approval of the President.

Each of the four undergraduate classes shall select annually, for terms of one year, a member of each respective class to serve in an advisory capacity to the Athletic Council upon call of the Faculty Chairman on the matter of awarding insignia of merit.

All funds arising from athletics are handled entirely by the Treasurer of the University. An audit of the receipts and disbursements of these funds is to be made annually by the official auditors of the University and a report thereof made annually to the Executive Committee of the Board of Trustees.

## RELIGIOUS SERVICES

The Duke University Church (Interdenominational) conducts services throughout the year. Preaching services are held on Sunday at 11:00 A.m. in the University Chapel. A Vesper service, conducted each Thursday at 7:00 p.m., is sponsored by the Student Religious Council. Organ recitals and special musical programs are given from time to time on Sunday afternoons in the Chapel. During the summer, carillon recitals are given twice a week.

## APPOINTMENTS OFFICE

The University maintains an Appointments Office, with services extended to all students and alumni without charge. This office has two divisions, commercial (general placement) and educational (teacher placement). Students and alumni are encouraged to register with the office in order to make available in one center information respecting their various qualifications for the employmient they seek.

## THE BUREAU OF TESTING AND GUIDANCE

The University maintains a Bureau of Testing and Guidance in which is centralized the counseling and guidance program for students. It is responsible for the administration of various testing programs throughout the year. Included in the responsibilities of the Bureau are admissions tests, placement tests, vocational series, other specialized programs including the Graduate Record Examination, the Navy College Aptitude Test, the Medical College Admissions Test, and specific testing programs requested by the schools and colleges within the University. The Bureau likewise maintains facilities for research projects in the field of guidance and testing and offers such services to schools and individuals outside the community as its facilities permit. Requests for further information should be addressed to The Director, Bureau of Testing and Guidance. Duke Station, Durham, North Carolina.

## UNIVERSITY LECTURES

## THE AVERA BIBLE LECTURES

The Avera Bible Fund was established in 1897 in honor of the late W. H. Avera by his wife, who donated $\$ 2,500$ for this purpose. The income from this amount is used to establish a lectureship and to provide a collection of books on Biblical Literature.

## JOHN MCTYEIRE FLOWERS LECTURES

The John McTyeire Flowers Lectures, established by the late B. N. Duke as a memorial to John McTyeire Flowers, a young alumnus of Trinity College who died in the Far East in 1905, were inaugurated in 1921.

## UNIVERSITY LECTURE SERIES

The University Series of Lectures is given each year. These lectures are under the supervision of the Committee on Public Lectures of the Faculty.

## FOUNDERS DAY

In commemoration of the signing by the late James B. Duke, on December 11, 1924, of the Indenture of Trust creating the Duke Endowment, under which Trinity College was expanded into Duke University, appropriate exercises are held on Founders Day at the University. Various local alumni groups celebrate the anniversary in connection with their annual meetings, some of which are held on December 11 but most of which take place on other dates during the autumn.

## ALUMNI ORGANIZATIONS

## GENERAL ALUMNI ASSOCIATION

The Alumni Association of Duke University is composed of the former students of Duke University and its predecessor, Trinity College. The Association gives its annual dinner at Commencement, at which time the annual business meeting of the Association is held.

## GENERAL ALUMNAE ASSOCIATION

The Alumnae Association of Duke University is composed of the women graduates and former students of Duke University and its predecessor, Trinity College. The Association joins with the Alumni Association in the annual dinner at Commencement. The annual business meeting is held during Alumnae Week End.

## DUKE UNIVERSITY NATIONAL COUNCIL

The Duke University National Council is a working body for the alumni interests and maintains a constant supervision of alumni activities. It devotes its activities and efforts to advancing the welfare of Duke University by all appropriate means. Two meetings are held each year, one at Commencement and the other in the fall. The Council is composed of representatives from the various classes, local associations, students, faculty, parents, representatives at large, honorary members, officers of the General Alumni and Alumnae Associations, and representatives from the alumni and alumnae organizations of the professional schools.

## ALUMNAE COUNCIL

The Alumnae Council was established by the General Alumnae Association in 1925. As the working organization of the group which established it, the Council endeavors to bind more closely the alumnae and the University and to advance the interests and aims of Duke University.

## THE ALUMNI OFFICE

The General Alumni Office was organized to promote the work of the local alumni and alumnae associations and to co-ordinate the various activities of the General Alumni and Alumnae Associations and the Duke University National Council and Alumnae Council. Eighty county and local alumni associations have been formed in North Carolina and other states.

## THE ALUMNI REGISTER OF DUKE UNIVERSITY

The Alumni Register of Duke University is a monthly magazine published by the Alumni Association in the interest of the alumni and the University. It aims to keep the alumni in touch with one another and with the University.

## THE ALUMNI NEWS

The Duke Unversity Alumni Neze's is sent to all alumni four times during the year.

## DUKE UNIVERSITY BUREAU OF PUBLIC INFORMATION

The Duke University Bureau of Public Information is the official publicity agency of the University for the purpose of sending out news to the press.

## FEES AND EXPENSES

## UNDERGRADUATE COLLEGES OF ARTS AND SCIENCES AND COLLEGE OF ENGINEERING

All fees listed below, with the exception of that for registration, are due and payable at the beginning of each semester. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc. Regularly enrolled undergraduate students are issued non-transferable identification books which entitle such students to attend without charge all intercollegiate athletic events regularly scheduled by the Director of Athletics and held on the campus. Special fees for instruction in Applied Music are listed on page 92.
Registration, payable only once, on notice of acceptance. This is not refundable $\$ 20.00$

General Fee 75.00

An advanced deposit of $\$ 25.00$ is required of all students at the time of spring registration in order to reserve a place in the classes for the fall semester. This is applied toward payment of the general fee upon the opening of the fall semester. The deposit will be refunded to students whom the University does not permit to return. Students who fail to return of their own volition are not entitled to a refund.

An advance deposit of $\$ 25.00$ is also required of old students who have been out of school for one or more semesters and have been accepted for readmission. It is applied toward payment of the general fee for the semester of readmission. The advance deposit is paid at the time of acceptance and is not refundable.

## ESTIMATED EXPENSES FOR AN ACADEMIC YEAR

The necessary expenses of a student are moderate; the University dormitories provide thoroughly comfortable and wholesome living conditions at a minimum of cost. Incidental expenses depend naturally upon the tastes and habits of the individual, but the actual necessary expenses are as follows:

|  | Low | Moderate | Liberal |
| :---: | :---: | :---: | :---: |
| Tuition | . $\$ 350.00$ | \$ 350.00 | \$ 350.00 |
| General Fee | 150.00 | 150.00 | 150.00 |
| Room-rent | 100.00 | 125.00 | 175.00 |
| Board | 325.00 | 375.00 | 450.00 |
| Laundry | 25.00 | 30.00 | 35.00 |
| Books | 20.00 | 30.00 | 40.00 |
|  | \$970.00 | \$1,060.00 | \$1,200.00 |

The actual fees and expenses necessary for one year in residence as a student in Trinity College, the Woman's College or the College of Engineering, then, can be met within $\$ 970.00$.

## LIVING ACCOMMODATIONS FOR MEN

Single room, per semester-Craven, Crowell, and Kilgo Quadrangles, West Campus $\$ 87.50$
Double room, per student, per semester-Craven, Crowell, and Kilgo Quadrangles, West Campus
There are three groups of resident houses, designated as Craven, Crowell, and Kilgo Quadrangles, on the West Campus. The rooms are single, double, or arranged in suites of two rooms for four students. There are thirty-one houses within the three groups designated by the letters of the alphabet.

Freshmen are required to live under the supervision of housemasters in dormitories reserved exclusively for them. They are not permitted to own or operate automobiles.

Rooms may be reserved only for applicants who have been officially accepted by the University. A fee of $\$ 25.00$ is required for reservation. This fee is deducted from the room rental charge at the time of registration for the semester; it is not refunded unless application for the refund is made sixty days prior to the registration date of the semester.

A resident student in order to retain his room for the succeeding semester must make application, accompanied by a reservation fee of $\$ 25.00$. All rooms which have not been reserved on or before an announced date will be considered vacant for the succeeding semester and will be reserved in the order in which applications are made.

Rooms are rented for no shorter period than one semester, or, in the case of a medical student, one quarter, unless by special arrangement with the Housing Bureau. A period of occupancy other than a semester or quarter and without special arrangement will be charged at a minimum rate of $\$ 1.00$ each day.

The exchange of rooms may be arranged at the Housing Bureau within fifteen (15) days after the official opening of the semester or quarter of the school term. A charge of two dollars (\$2.00) will be made for the exchange of rooms after the periods allowed for such exchange. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume the responsibility for the personnel selected as roommates. Each student is urged to select the roommate when the room is reserved.

## DORMITORY REGULATIONS FOR MEN

Duke University is particularly eager that its students shall have the best dormitory life to be found in any institution. It has endeavored to provide buildings and equipment commensurate with this ideal. The institution asks and believes that in return each student will respond by arranging his personal belongings in an orderly manner and by caring for the buildings and furniture as he would do in the home of a friend. The following regulations are offered as a guide and a reminder that care is desired.

1. The student will be held responsible for any damage to the room or furnishings during the rental period, and will pay for all damages caused by
his neglect, misuse or abuse of any part of the University property. Inspections will be made throughout the college year to observe the condition of the rooms and to advise students concerning the care of rooms, if necessary.
2. Maids will prepare the rooms daily except Sunday, the service beginning promptly at $8: 00$ A.M. and ceasing at $1: 00$ P.M., thereby giving the student complete use of his room during the afternoon.
3. University furniture or furnishings must not be removed from the room in which they have been placed by the University.
4. Electric wiring, door locks, window screens, steam or water lines should not be changed or added, since the University supervises and makes such changes as are necessary and advisable.
5. Pictures, pennants and clippings should be hung from the picture moulding and not tacked or pasted on walls or woodwork.
6. Each student is expected to supply necessary sheets, blankets, pillows, rugs, and curtains. Furniture, beds and mattresses ( $39^{\prime \prime} \times 74^{\prime \prime}$ ), tables, chairs, dressers, mirrors, and window shades are furnished by the University.
7. All trunks and heavy luggage will be stored in the trunk rooms. Janitors will remove the trunks from the hallways to the storage rooms when they are unpacked.
8. The exchange of rooms or keys should be arranged at the office. Any exchanges made otherwise will subject the participant to charges for both rooms.
9. The use or possession of intoxicating liquors, wines or beer, and gambling in any manner in any of the buildings or on the grounds of Duke University are forbidden.
10. Animals shall not be kept in the dormitories.
11. Women are permitted in the dormitories only when accompanied by the University Hostess.
12. The use of dormitory rooms as a sales office or storeroom, or the solicitation for sales or gifts within the buildings or on the grounds is prohibited except by appointees of the University.

## LIVING ACCOMMODATIONS FOR WOMEN

Undergraduate women are required to live in the residence houses of the Woman's College unless they are living with parents or close relatives in the city. Under special circumstances the Dean may make an exception in the case of a mature student.

Residence Houses. There are eight residence houses: Alspaugh, Aycock, Bassett, Brown, Giles, Jarvis, Pegram and Southgate. All rooms in Jarvis and Southgate are double ; in Aycock there is a limited number of singles; and in the other houses there are a few singles and several suites consisting of a double and a single or two singles.

A Counselor, who is a member of the Dean's Staff, lives in each dormitory to advise the students and to assist the student House Council in the administration of the house.

Room Furnishings. All rooms contain only the principal articles of furniture. A student is required to supply her own linens, blankets, bedspreads, curtains, and study-lamps. She may, if she wishes, provide additional articles such as scatter-rugs and small tables or bookcases, but she is not permitted to have large rugs or heavy overstuffed furniture.

Room Rent. Each occupant of a double room is charged $\$ 62.50$ a semester; the occupant of a single room, $\$ 87.50$ a semester.

Rooms are rented for no shorter period than one semester, unless by special arrangement with the Dean of Residence. A period of occupancy other than a
semester or quarter and without special arrangement will be charged at a minimum rate of $\$ 1.00$ each day.

Room Reservations. Room reservations are made with the Dean of Residence of the Woman's College. To obtain a reservation, a student must pay a fee of $\$ 25.00$, which is later deducted from the room rent. A new student should pay this fee as soon as she is accepted by the Committee on Admissions. If she does not pay it within ten days, her admission is cancelled. As an applicant for admission may not reserve a room until she is officially accepted, she is requested not to send the reservation fee before she receives notice of her admission.

A student cancelling her room reservation sixty days or more prior to the official opening of the semester may have her fee refunded. After that date no refunds are made.

In the spring, resident students reserve rooms for the next fall semester in accordance with the plan announced by the Dean of Residence. New students are, as far as possible, given their choice of the remaining rooms.

Roommates. A new student who wishes a double room but has made no arrangement for a roommate will be assigned a roommate by the College. After a student has been a resident for one semester, she is responsible for obtaining and keeping a roommate. If a student occupying a double room does not obtain a roommate in the time required by the Dean of Residence-approximately two weeks after the beginning of the semester-she may be required to pay the rental consideration for the entire room.

Room Occupancy. After a student has engaged a room, she is not permitted to move to another without the consent of the Dean of Residence. A student leaving one room and occupying another without permission may be charged for both rooms for the entire semester. No student is allowed to rent or sublet the room she has engaged to another occupant.

## DINING SERVICE

West Campus.-Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day, depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus, and the Oak Room where full meals and a la carte items are served.

Woman's College, East Campus.-The dining halls of the Woman's College are situated in the Union and in Southgate. No resident woman is permitted to board elsewhere than at these halls. The charge for board is $\$ 175.00$ per semester, payable at the time of registration.

It is hoped that present rates may be maintained. Charges, however, are necessarily dependent upon costs of labor, foods and materials, and some adjustment may be necessary.

Because of the large number of those served in the dining halls, it is not possible to arrange special diets for individual students. Special diet for the sick is served in the Infirmary.

## REGULATIONS REGARDING PAYMENTS

The Executive Committee of Duke University has enacted the following regulations which govern the payment of all fees due the University:

1. The President and the Treasurer of the University have no authority to suspend or in any way alter these regulations.
2. Any student who has failed to pay his bills on the dates advertised
in the catalogue is denied the right to attend classes until his account is settled in full; subsequent withdrawal does not entitle a student to a refund.
3. No student is considered by the Faculty as an applicant for graduation until he has settled with the Treasurer for all his indebtedness to the University.
4. No student who has not settled all his bills with the Treasurer of the University is allowed to stand the final examinations of the academic year.

When a student wishes his bills sent to his parents or guardian, the student or his parent or guardian must so notify the Treasurer of the University in writing in due time; but this in no way releases the student from liability to established penalties, if his bills are not paid on the dates advertised.

## TRANSCRIPTS

Students desiring transcripts are entitled to one transcript without charge. A fee of $\$ 1.00$ is charged for each additional transcript. Records are not released when any outstanding amount is reported by the Treas urer's Office.

## SCHOLARSHIPS, LOANS, AND EMPLOYMENT AID

Duke University annually awards available scholarships, administers loan funds, and supervises student employment through a committee of the Faculty for deserving undergraduates of Trinity College, the Woman's College, and the College of Engineering.

## SCHOLARSHIPS

Scholarships intended to aid needy and deserving students have been established from time to time by persons deeply interested both in Duke University and in the members of its student body. All scholarship endowments are held in trust and are kept separate and distinct from other holdings of the University. All income is faithfully applied in accordance with the terms of the gift or bequest.

In addition, a limited number of scholarships, notably the honorary awards in recognition of scholastic merit and strength of character, are financed through current funds of the University.

Scholarships are awarded annually by a committee of the Faculty appointed by the President of the University. In some cases donors have specified certain limitations and conditions. These are faithfully followed, but in all cases final award is made by the Faculty committee.

Any prospective student may apply for a scholarship. Applications, however, may be made formally by a prospective student only after his application for admission has been made, all necessary credentials have been presented, and notification of acceptance has been given. All applications are to be by letter and must include on a form furnished by the University a complete statement of the applicant's needs. The number of scholarships available is small in comparison with the number of applicants for these awards. As a result, the committee, in making its decisions, must in so far as possible limit scholarship aid to cases where the need is imperative.

All applications for scholarship aid should be made to the Scholarship Committee, Secretary's Office, Duke University.

## THE ANGIER DUKE REGIONAL PRIZES

Value. Nine prizes of $\$ 750.00$ each are awarded annually to six men and three women. Prizes are awarded for one year and are renewable from year to year for a maximum duration of four years, on the condition that the holder maintain a scholastic average in the upper quartile of his class and further that he show evidence of developing the qualities of leadership which served as the basis for the original selection. When all awards are renewed, there are thirty-six holders of prizes in residence. The total value to the recipient who qualifies for the maximum period is $\$ 3,000.00$.

Eligibility. Any resident of the state of North Carolina is eligible
to apply regardless of where he or she prepares for college. A candidate may be a graduate of a secondary school, public or private, located within or beyond the borders of the state. Candidates must be eligible for admission to the freshman class of Trinity College, the College of Engineering or the Woman's College in the ensuing academic year. A candidate must have attained scholastic standing in the highest 25 per cent of his or her class as of the closing date of his or her most recently completed semester.

Objective. The prizes are intended to encourage as students young men and women who give promise of becoming leaders in their chosen fields of endeavor. As potential leaders, they should possess character, personality, intellectual integrity, vitality, and imagination. As students they should possess scholastic ability of a creative sort and minds that can digest and use the knowledge they acquire. The prizes are designed to stimulate young men and women who possess these traits to become citizens with a genuine interest in society and ability to influence and direct the course of affairs.

Procedure. Applications for one of the prizes awarded either to men or women should be addressed to Mr. John M. Dozier, Office of the Secretary, Duke University, Durham, N. C.

## LOAN FUNDS

A number of loan funds have been established for the benefit of students of Duke University. The most important and largest of these is the Angier B. Duke Memorial Student Loan Fund, which is administered through an advisory committee of officers of the University. The amount available to be loaned annually depends upon the income from investments and on the amount repaid on loans previously made to students.

The same committee of officers administers the other endowed loan funds of the University.

Although a considerable sum accrues annually for loans to students, it is not sufficient to provide for all calls for assistance. The committee in approving loans selects those students who, from the standpoint of character, scholastic attainment, personality, and degree of financial need, are most deserving of consideration.

The following regulations govern the making of all student loans:

1. No loans shall be made to a student who violates any of the regulations of the University or whose classwork is not satisfactory to the Faculty.
2. As a general policy a student is not potentially eligible for loan assistance until he has been in residence at least one semester and until those responsible for the administration of loan funds have had an opportunity to acquaint themselves with the worthiness and the need involved in any particular case.
3. Loans will be made only to students who are taking approved
courses of study that lead to a degree, and all loans must be arranged for not later than one week after the beginning of a semester.
4. Every applicant for a loan must present with the application such security as the President of the University may approve, and no money shall be advanced before a note with approved security is in the hands of the Treasurer of the University.
5. No loan will be made to defray any other expenses than those incurred during the academic year for tuition, for matriculation, or for room-rent.
6. Interest at rate of six per cent annually shall be charged for all loans of money, and the interest must be paid annually.
7. Applications for loans should be made to the Loan Committee, Secretary's Office, Duke University Station. A formal application for loan assistance may be made only on blanks furnished in the Secretary's Office at the time of registration. The granting or withholding of a loan is a matter entirely within the discretion of the Loan Committee. A student is expected to use all other possible means of securing financial assistance before applying for aid from the Loan Fund.

## EMPLOYMENT

In order to serve the students attending Duke University who need part-time employment, a student employment office is maintained. There are many work opportunities both on the campus and in the city of Durham. Although there is no definite number of such places, a considerable number of students each year help defray their college expenses by working.

A listing of all known available jobs is kept in this office, and the majority of students who wish to work are placed in suitable jobs. The student employment office also keeps a permanent record of the work activities of the self help students and is able to write recommendations in the senior year of these students for the Appointments Office.

Prospective students may make application for part-time employment only after they have completed an application for admission and notification of acceptance has been given. The job application should be by letter prior to the reporting date for entrance, and a complete detailed job application form must be completed on the date of arrival at Duke University.

Those students in Trinity College and the College of Engineering in need of such employment may apply to Mr. J. M. Dozier, 209 Administration Building, West Campus. Students in the Woman's College should apply to the Assistant Dean of Residence, 108 East Duke Building, East Campus.

## HONORS AND PRIZES

To be eligible for Honors a student must earn during the year a credit of not less than thirty semester hours. Students in the freshman, sophomore, and junior classes who earn an average of at least two and onehalf quality points per semester hour are given Honors. All semester hours on which a student receives a grade are counted in the determination of Honors.

The degree of Bachelor of Arts or of Bachelor of Science with distinction is conferred in accordance with the following rules:

Students who have completed a minimum of ninety semester hours in Duke University are eligible for general Honors at graduation. Those who earn an average of at least two and one-half quality points per semester hour are recommended for a degree magna cum laude. Those who earn an average of at least two and three-fourths quality points per semester hour are recommended for a degree summa cum laude. All semester hours taken in Duke University on which a student receives a grade are counted in the determination of Honors.

## MEDALS AND PRIZES

The Wiley Gray Medal was established by the late Robert T. Gray, Esq., of Raleigh, North Carolina, to be awarded annually in memory of his brother. It is given for the graduating oration that shall be, in the opinion of a committee, the best, with respect to both declaration and composition.

The Debate Council authorizes the awarding of medals to members of the graduating class who have represented the University in at least two intercollegiate debates. The medals are given by the local chapter of the Tau Kappa Alpha Fraternity.

The Robert E. Lee Prize is the gift of The Reverend A. W. Plyler, of the Class of 1892, and Mrs. Plyler. The sum of $\$ 50$ is awarded annually at Commencement, preferably to that member of the Senior Class who in character and conduct, in scholarship and athletic achievement, in manly virtues and capacity for leadership, has most nearly realized the standard of the ideal student. The Dean of the College, the Graduate Manager of Athletics, and the President of the Student Council constitute a committee to draft and adopt regulations governing the award.

Alpha Kappa Psi Medallion. Beta Eta Chapter of Alpha Kappa Psi, a professional fraternity in comnterce, awards annually the Alpha Kappa Psi Scholarship Key to the male senior student pursuing a degree in the Department of Economics and Business Administration, who has attained the highest scholastic average for three years of collegiate work in this University.

The Willis Smith Prize. Mr. Willis Smith, a member of the Raleigh Bar and Chairman of the Board of Trustees of Duke University, awards each year to that member of the graduating class of the Law School who
has maintained the highest scholastic average during the entire three years of Law School work, a prize consisting of a set of books selected personally by Mr. Smith each year for that purpose.

Julia Dale Prize in Mathematics. This is a prize of books given annually to the undergraduate who shows the greatest proficiency in the study of the calculus.

The Milmow Prize, consisting of one year's subscription to the Electrical World, is awarded each year to that student from North or South Carolina graduating in the Department of Electrical Engineering, who, in the opinion of the Faculty of that department and as shown by his grades, has made the most progress in electrical engineering during his last year in college.

The Tau Beta Pi Prize. The North Carolina Gamma chapter of Tau Beta Pi , national honorary engineering fraternity, awards each year a suitable prize, such as an engineering handbook, to a sophomore student in engineering for outstanding scholastic achievement during the freshman year.

The Pegram Chemistry Club Prize will be awarded in the spring of each year for scholarship in chemistry, physics, and mathematics. The prize is to consist of one-year junior membership in the American Chemical Society, and a one-year subscription to either the Journal of the American Chemical Society, or to Industrial and Engineering Chemistry. To qualify for this prize the student must (1) be enrolled as an undergraduate of Duke University and (2) be taking or have taken a fourthyear chemistry course. The winner of this prize is to be selected by a committee consisting of at least one Faculty member and at least two members of the Pegram Chemistry Club; the selection is to be based on the quality-point average for all courses taken in chemistry, physics, and mathematics. In case of a tie equal awards will be given.

The Sigma Xi Prize. The Society of the Sigma Xi, honorary scientific society, is devoted to the encouragement of scientific research, and seeks to stimulate those who show promise of accomplishment in scientific research. As an encouragement to younger men and women the Duke Chapter of Sigma $\overline{\mathrm{X}}$ i has established the following prizes to be awarded annually to students resident at Duke University: $\$ 20.00$ for an undergraduate project or paper, $\$ 20.00$ for a Master's thesis or its equivalent, and $\$ 40.00$ for a Ph.D. dissertation or its equivalent. Nominations, recommendations, copies of theses, reports or other material must be in the hands of the Secretary of the Chapter on or before May 5.

The Erasmus Club Prize in the Humanities. The Erasmus Club, founded in 1925, a group of Duke faculty members interested in research in language, literature, and the arts, seeks to stimulate interest and study in these fields. To encourage Duke students in this field, the Erasmus Club has established an annual prize, amounting to $\$ 25.00$, for the best original essay by an undergraduate which embodies the results of research, criticism, or evaluation in some subject in the humanities. Pro-
spective competitors should consult some member of the Faculty, preferably their major professor. Essays must be typewritten and must be submitted to the president of the Club before the first of April. The Club reserves the right to withhold the prize in case there are no essays of acceptable quality.

The Anne Flexner Memorial Award in Creative Writing has been established by the friends and family of Anne Flexner, who graduated from Duke in 1945. It consists of fifty dollars in cash and a book bearing the Anne Flexner Memorial Award bookplate. It is given annually for the best pieces of creative writing submitted by a Duke undergraduate. It is limited to short stories ( 5,000 word limit), one-act plays ( 5,000 word limit), poems ( 100 line limit), and informal essays ( 3,000 word limit). Only one manuscript may be submitted by a candidate, and manuscripts must be delivered to the English Office, Room 2G5, West Duke, before April 15.

The William Senhauser Prize is given by his mother in memory of her son, a member of the Class of 1942, who lost his life in the Pacific Theatre of War on August 4, 1944. The award is made annually to the sophomore or junior in Trinity College or the College of Engineering who has made the greatest contribution through participation and leadership in intramural sports. The winner of this prize is chosen by a committee selected by the President of the University.

The Friends of Duke University Library offer three prizes of $\$ 25.00$, $\$ 15.00$, and $\$ 10.00$ in an annual contest open to all undergraduate students for the best book collections acquired during their college years. The contest is supervised by the Undergraduate Committee of the Friends of the Library, which announces each fall the terms of the award. Inquiries may be directed to the Curator of Rare Books. Collections entered in the contest are exhibited each spring in the General Library, and the prizes are awarded on the basis of the student's collection and a personal interview to determine the over-all planning and objectives of his collecting activity, and his familiarity with his own books and the general field of his collecting interest.

## STUDENT ORGANIZATIONS AND ACTIVITIES

The Men's Association of Duke University comprises all men students in Trinity College and the College of Engineering. Through its officers and a council it initiates policies and oversees matters within the control of the student body. The council is composed of nine members: three executive officers, two representatives from the Senior Class, two from the Junior Class, one from the Sophomore Class, and one from the College of Engineering.

The Women's Student Government Association is similar in character to the men's association. Its council is composed of the officers of the Association, house presidents and president of the Town Girls' Club, class representatives, and chairman of the Freshman Advisory Council, ex officio.

The Young Men's Christian Association and the Young Women's Christian Association are branches of the national student Christian Associations. Each body aims to enrich not only the religious life of its members as individuals but also to promote religious group activity. These organizations carry on extensive activity in the fields of social service, faculty-student relations, forums, and other related projects. Membership in the Student Religious Council relates these organizations to the total religious activities program of the Duke University Church, Interdenominational.

Other organizations and activities include the following:
Bench and Bar Society (Pre-Legal Undergraduates) ; Class of 1950; Class of 1951; Class of 1952; Class of 1953; Classical Club (Men); Club Panamericano; Commodore Club; Debate Council (Men) ; Duke Masonic Club; Duke Players; Duke University Church (Interdenominational); Duke University Handbook and Directory; Duke University Steering Committee; Engineers' Club; G. O. Politan Club; Graduate Club; Hoof 'n' Horn; Inter fraternity Council ; Intramural Athletic Department; Men's Freshman Advisory Council; Pegram Chemistry Club; Pre-Medical Society; Quadrangle Pictures; Shoe and Slipper Club; Student Religious Council; Town Boys' Club; Town Girls' Club; Woman's College Student Forum; Women's Athletic Association; Women's Freshman Advisory Council; Young Democrats Club; World Student Service Fund.

HONORARY ORDERS AND FRATERNITIES (NATIONAL)
Alpha Kappa Psi (Economics) ; Chi Delta Phi (Literary) ; Delta Phi Alpha (German); Kappa Chi (Pre-Ministerial); Kappa Delta Pi (Educational); Omicron Delta Kappa (Leadership-Men); Phi Beta Kappa (Scholarship) ; Phi Eta Sigma (Freshman Scholarship-Men); Pi Mu Epsilon (Mathematics) ; Sigma Delta Pi (Spanish); Sigma Pi Sigma (Physics); Tau Kappa Alpha (Forensic); Tau Psi Omega (French) ; Theta Alpha Phi (Dramatic).

HONORARY ORDERS AND FRATERNITIES (LOCAL)
Beta Omega Sigma (Sophomore-Men) ; Delta Phi Rho Alpha (Ath-letic-Women) ; Ivy (Scholarship-Freshman Women); Mu Sigma (Psychology); Phi Kappa Delta (Leadership-Women); Red Friars (Leadership-Senior Men) ; Sandals (Sophomore-Women) ; Varsity "D" Club (Athletic-Men) ; White Duchy (Leadership-Senior Women).

## ENGINEERING STUDENT PROFESSIONAL SOCIETIES

Student branches of the following national professional engineering societies are active at the College of Engineering: American Institute of Electrical Engineers; the American Society of Civil Engineers; the American Society of Mechanical Engineers; and the Institute of the Aeronautical Sciences.

## ENGINEERING STUDENT HONORARY SOCIETIES

Tau Beta Pi (National Honorary Engineering Fraternity); Pi Tau Sigma (Mechanical Engineering National Honorary Society) ; Order of St. Patrick (Leadership).

## MUSICAL ORGANIZATIONS

Chamber Orchestra; Concert Band; Madrigal Singers; Marching Band; Men's Glee Club; Music Study Club; Symphony Orchestra; University Chapel Choir; Women's Glee Club.

## N.R.O.T.C. ORGANIZATION

Commodore's Club, N.R.O.T.C. Social Organization.

## SOCIAL FRATERNITIES (NATIONAL)

(The Men's Interfraternity Council)
Alpha Tau Omega; Beta Theta Pi ; Chi Phi ; Delta Sigma Phi ; Delta Tau Delta; Kappa Alpha; Kappa Sigma; Lambda Chi Alpha; Phi Delta Theta; Phi Kappa Psi; Phi Kappa Sigma; Pi Kappa Alpha; Pi Kappa Phi; Sigma Alpha Epsilon; Sigma Chi ; Sigma Nu; Sigma Phi Epsilon; Theta Chi ; Zeta Beta Tau.

SOCIAL SORORITIES (NATIONAL)
(The Women's Pan-Hellenic Council)
Alpha Chi Omega; Alpha Delta Pi; Alpha Phi; Alpha Epsilon Phi; Delta Delta Delta; Delta Gamma; Kappa Alpha Theta; Kappa Delta; Kappa Kappa Gamma; Phi Mu; Pi Beta Phi; Sigma Kappa; Zeta Tau Alpha.

## STUDENT PUBLICATIONS

(Publications Board)
Archive (Monthly); Chanticleer (Annual); Chronicle (Weekly); Duke ' $n$ ' Duchess (Monthly Humor) ; DukEngineer (Bimonthly).

## STUDENT ACTIVITIES OFFICE

The Student Activities Offices were established for the purpose of assisting and co-ordinating the financial activities of the various student
organizations in Trinity College, the College of Engineering, and the Woman's College.

The offices offer to student organizations a banking service through the office of the University Treasurer. They also provide auditing services for organizations requiring it. Permanent records of all financial activities of organizations are kept under the supervision of the offices. The Student Activities Offices, co-operating with the University Purchasing Department, also serve in the capacity of purchasing agent for affiliated student organizations. There is no charge for this service.

In addition to these specific services, the purpose of the offices is to promote well organized and effective extra-curricular interest.

Student Activities Offices for Trinity College and the College of Engineering are located on the West Campus, and for the Woman's College on the East Campus.

# THE GRADUATE SCHOOL OF ARTS AND SCIENCES 

Fall Semester, 1950, begins September 21 ;
Spring Semester, 1951, begins January 31.

1949-1950
ANNOUNCEMENTS FOR 1950-1951

# GRADUATE INSTRUCTION IN DUKE UNIVERSITY 

## ADMISSION <br> TO GRADUATE COURSES

A student who has received the A.B. or B.S. degree from an institution of recognized standing for a four-year undergraduate course may be admitted to take graduate courses in the Graduate School of Arts and Sciences of Duke University, provided that his undergraduate record gives positive evidence of ability to undertake graduate study successfully. An average grade of not less than " $B$ " is ordinarily accepted as evidence of such ability.

All new applicants for admission to graduate courses are now required to take the Graduate Record Examination before they can be admitted. In cases where it is not possible to take the Examination before arrival at Duke University and where the transcript of work taken elsewhere clearly shows that the student is otherwise eligible, the Examination may be taken the first time it is given here after the student's arrival. Students may make their arrangements for taking this Examination directly with the Educational Testing Service, P.O. Box 592, 20 Nassau Street, Princeton, New Jersey. Examinations are conducted several times each year at centers distributed throughout the United States and Canada, and wherever possible students should apply to such a center for the Examination.

No college or university work taken before the Bachelor's degree is conferred, or fully earned, may be credited toward an advanced degree except under the following circumstances: A student of Duke University who lacks at the beginning of a semester not more than nine semester hours of fulfilling the requirements for the Bachelor's degree may obtain permission from the Dean of the Graduate School to take during the semester graduate courses sufficient to bring his total work to fifteen hours a week. Such graduate courses will be credited toward the degree of Master of Arts or Master of Education if registered in the Graduate School Office at the beginning of the term and if the student meets the requirements below for formal admission to the Graduate School.

A candidate for admission to graduate courses should ask the proper officer of the college, or colleges, he attended to send directly to the Dean of the Graduate School an official transcript of all undergraduate records. An advanced student should provide also a transcript of the graduate work completed. Students who have attended more than one college or university should note that certification by one institution of work completed at another institution cannot be accepted. In no case will a transcript presented by the candidate himself be accepted as a basis for admission, nor will a transcript mailed by any institution be returned to the student.

An application blank for admission will be provided upon request to
the Dean of the Graduate School. The transcript and application should be submitted to the Graduate School by August 1 for admission in the autumn semester and by January 1 for admission in the spring semester.

Letters of recommendation are required of each candidate for admission. The applicant should ask two or three professors qualified to speak of his promise as a graduate student to write letters of appraisal to the Dean of the Graduate School of Arts and Sciences, Duke University Durham, North Carolina.

## TO THE GRADUATE SCHOOL

After twelve semester hours of graduate courses, the student may apply for admission to the Graduate School, and thus become a candidate for the Master's degree. Such admission is dependent upon the fulfillment of two conditions. (1) The student must have made a mark of "G" (good) in at least three semester hours of work, with no mark less than "S." Candidates who cannot meet this condition may at a later time submit their records for re-evaluation, provided that in their subsequent work they shall have made a substantial number of "G's." (2) The student in his undergraduate work must have met substantially the requirements for the A.B. or B.S. degree at Duke University.* Any deficiencies of undergraduate work must be satisfied before admission to the Graduate School. Graduate courses taken at Duke University prior to formal admission to the Graduate School will count toward a higher degree provided they are in accord with its requirements and are acceptable to the major department.

A graduate student may be requested to withdraw from the University at the discretion of the Dean of the Graduate School.

## REGISTRATION

Before actually registering in the Graduate School Office, the student who is admitted to graduate courses should consult with the Director of Graduate Studies or his representative in the department in which he proposes to major and receive written approval of his schedule of courses. This can be done during the registration period in September and January. The department concerned will determine whether a student is prepared to take any particular course. In all cases the student must make up without credit toward a graduate degree all prerequisites required by the major department of candidates for advanced degrees. Students who have fulfilled the minimum residence requirements for the doctorate but who are continuing resident study at Duke University for the degree should register in the Graduate School Office.

New students are advised to arrive early during the registration period in order to formulate their programs. Anyone registering for courses after the close of the regular registration period will be charged a late registration fee of five dollars.

[^45]
## TUITION AND FEES <br> GENERAL FEES IN THE ACADEMIC YEAR

The following table shows the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester. No student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.
Tuition, per semester. ..... $\$ 175.00$
General Fee,* per semester ..... 60.00
Athletic Fee, not including Federal Tax, Optional, per semester. ..... 5.00
Special Dissertation Fee, payable by candidates for Ph.D. degree in the last semester before the degree is granted. Returned on satisfactory publication of thesis. ..... 50.00

## SPECIAL FEE

An administrative fee is charged in connection with special graduate research work in the summer under direction of a member of the Faculty. students from the university of north carolina graduate school

Under an experimental plan of co-operation between the University of North Carolina and Duke University, students regularly enrolled in the University of North Carolina Graduate School and paying full fees to that institution may be admitted to courses in the Duke University Graduate School on payment of a registration fee of two dollars and any other special fees which are required of all students.

## TRANSCRIPTS

A student desiring to transfer from Duke University to another institution is entitled to one free transcript of his record. A charge of one dollar, payable in advance, is made for each additional copy. Transcripts of students who enroll in graduate courses only in the summer sessions are issued by the Summer Session Office prior to the fulfillment of all requirements toward an advanced degree, after which time they can be obtained in the regular way from the Graduate School.

## PAYMENTS TO FELLOWS, SCHOLARS, AND GRADUATE ASSISTANTS

Payments by the University of stipends to fellows, scholars, and graduate assistants are made in four equal installments, at approximately the middle and end of each semester. Tuition fees are charged against the stipends.

Fellows and scholars are required to pay the regular tuition and fees and are expected to take a full program of work. Assistants who are permitted to register for only four fifths of a regular program are charged a proportionate amount of the tuition in addition to the regular matriculation and other fees.

[^46]
## SPECIAL CHARGES FOR TEACHERS AND OTHERS

For the purpose of aiding North Carolina teachers in their professional preparation, Duke University grants a special tuition rate to members of the faculties of neighboring schools and colleges who desire to register during the regular academic session for one or two graduate courses. For such courses a teacher regularly employed and teaching while taking these courses is charged a registration fee of five dollars at the beginning of each semester and a tuition fee of five dollars and twenty-five cents per semester hour of course credit. Under this provision a student may not register for more than seven semester hours each semester.

Employees of Duke University who are paid on a monthly basis throughout the year, ministers of neighboring churches, and wives of the Duke Faculty may be included under the above provisions by the Dean of the Graduate School, provided that such persons do not receive residence credit in any semester for more than two fifths of a regular program in meeting the requirements for advanced degrees.

The special tuition rate for teachers does not apply to the holders of fellowships, graduate scholarships, and graduate assistantships annually awarded in the Graduate School, nor to teachers on leave of absence and not actually engaged in their teaching at the time of registration.

## FELLOWSHIPS, SCHOLARSHIPS, AND ASSISTANTSHIPS

For the assistance and encouragement of graduate students of high character and marked ability, the University has established a considerable number of fellowships, scholarships and assistantships with stipends ranging from $\$ 450$ to $\$ 1,600$. Holders of these awards will be expected to pay the tution fee and such additional fees as are regularly required. Applications for appointments together with supporting credentials should be received on or before March 1 of each year. In case vacancies occur, applications submitted on a later date will be considered. Appointments are made for no longer than one academic year.

In appointing fellows, preference is usually given to applicants who have completed successfully at least one year of graduate work. Fellows will be required to give a limited amount of assistance in reading papers, in laboratories, or in other departmental duties. All fellows carry a full program of graduate work. Scholars may be asked to give a limited amount of assistance in departmental work. They normally carry a full program of graduate studies. Assistants receiving $\$ 700$ or more will be registered for four fifths of a normal program of studies.

Further information and application blanks may be obtained from the Dean of the Graduate School of Arts and Sciences, Duke University, Durham, North Carolina.

Awards offered for the year 1950-51 are listed below.
FELLOWSHIPS
One Angier Duke Memorial Fellowship of $\$ 1,600$.

Twelve University Fellowships with stipends varying from $\$ 1,050$ to \$1,500.

Twelve University Fellowships with stipends varying from $\$ 950$ to \$1,200.

Three Gurney Harriss Kearns Fellowships in Religion of $\$ 1,000$ each. GRADUATE ASSISTANTSHIPS
Approximately eighty additional appointments as teaching assistants or readers will be available for graduate students. The compensation will usually range from $\$ 800$ to $\$ 1,500$ depending upon the nature and amount of the work assigned.

## GRADUATE SCHOLARSHIPS

Fifteen scholarships with stipends varying from $\$ 450$ to $\$ 800$ each.
CHARLES W. HARGITT RESEARCH FELLOWSHIP IN ZOOLOGY
The Charles W. Hargitt research fellowship in Zoology, carrying a stipend of $\$ 2,500$, is restricted to research work in the field of Cytology. Appointment is for a single year, with the possibility of reappointment. The fellowship is primarily for post-doctoral research. Inquiries and applications should be made to Dr. C. G. Bookhout, Biology Building, Duke University, Durham, North Carolina.

## FELLOWSHIPS AND GRADUATE SCHOLARSHIPS IN FORESTRY

Information regarding special fellowships and graduate scholarships in forestry may be obtained from the Dean of the School of Forestry, Duke University, Durham, North Carolina.

## SIGMA XI PRIZE AWARDS

The Society of Sigma Xi offers each year a prize for a Master's thesis and a prize for a Ph.D. dissertation in the fields of Botany, Chemistry, Forestry, Mathematics, Medicine, Physics, Psychology, and Zoology. The student must be in residence during the academic year in which the prize is awarded. Students holding graduate appointments are eligible to compete, but instructors, part-time instructors, and interns are not eligible. The department concerned makes the nomination. Full particulars may be obtained from the secretary of the chapter. Nominations, recommendations, copies of theses, reports, or other materials must be in the hands of the secretary on or before May 1. All papers should be submitted in duplicate.

## ADVANCED DEGREES

The degrees offered in the Graduate School of Arts and Sciences are Master of Arts (A.M.), Master of Education (M.Ed.), Doctor of Education (Ed.D.), and Doctor of Philosophy (Ph.D.). Most departments of the University are now prepared to give a full program of work leading to the degree of Doctor of Philosophy.

## THE LIBRARY

The University Libraries contain 960,859 volumes, 618,613 of which are in the General Library. The remainder are shelved in eight school
and departmental libraries: Divinity, 46,318 volumes; Hospital, 48,070 volumes; Law, 89,122 volumes; Woman's College, 79,095 volumes; BiologyForestry, 40,090 volumes ; Chemistry, 13,555 volumes ; Engineering, 12,994 volumes; Mathematics-Physics, 12,076 volumes. Between 30,000 and 40,000 volumes are added annually to the University Libraries.

Most of the printed and manuscript materials of interest to graduate students in the humanities and social sciences are in the General Library. This building, first occupied in 1930, was doubled in size in 1949. The enlarged building now contains many special features which contribute to the preservation of materials and aid research students in their study. The book stacks and storage areas are air conditioned. Two hundred and fifty carrels, some enclosed, are available in the stacks as places of study. (Graduate students, upon application, may receive permits admitting them to the stacks.) A reading and study room for graduate students is provided on the first floor. Rare books and manuscripts are preserved in air conditioned quarters in the north tower, rare books occupying four rooms on the first floor and manuscripts, four on the ground level. Elsewhere on the ground level is the Newspaper Reading Room, where back files of newspapers may be consulted, and a Microphotography Laboratory with facilities for reproducing printed and other material. The Newspaper Reading Room contains a battery of microfilm reading machines.

The school and departmental libraries bring books and journals closer to students and faculty in several divisions of the University, particularly in the natural sciences.

The major task in developing a research library for scientists involves securing files of important journals and serials, and from the beginning this has been one of the primary objectives of the Library administration. In 1948-49 the University was receiving currently 3,600 periodicals by subscription, gift, and exchange. Library development in the humanities and social sciences has gone forward with the acquisition of basic collections of source materials and important publications of criticism and discussion. In quantity the purchases have ranged from significant single sets, such as Migne's Patrologia (Latin and Greek) and the Monumenta Germaniae Historica, to special libraries containing many thousands of volumes. Among the important special collections is the Guido Mazzoni library of Italian and comparative literature containing 23,000 volumes and 67,000 pamphlets which came to the University in 1948. Others include a Peruvian library of about seven thousand books and manuscripts; a library of several thousand volumes dealing with Brazil; an Ecuadorian collection of about two thousand volumes; the Robertson library of Philippiniana; the Lanson Collection of French literature consisting of twelve thousand books and monographs; a Goethe collection of one thousand volumes; a Scandinavian collection of three thousand volumes; a special group of five thousand items of early Americana, dating from the seventeenth century to 1820 ; the Holl church history library dealing primarily with the period of the Reformation; a collection of many thousands of church minutes and records of American denominational history; two collections of eighteenth-century English poetry and prose totaling about
five thousand items; the Frank C. Brown folklore collection consisting of about 38,000 folklore manuscripts, with 650 musical scores, 1,400 vocal recordings, and a variety of related materials; a collection of more than five thousand seventeenth- and eighteenth-century British pamphlets; special collections of manuscripts; annotated copies and first editions of Byron, Coleridge, and Emerson; a collection of material on the Fourier movement; the Arents tobacco collection; and the Thomas Collection of books on Chinese history and culture. Special mention should be made of the George Washington Flowers Collection of manuscripts, books. newspapers, and pamphlets dealing with all phases of Southern history, and of the Trent Collection of Walt Whitman books and manuscripts.

## Public Documents

The importance of public documents as fundamental source materials is clearly recognized, and a comprehensive collection of this material has heen assembled. The Library has been a depository for Federal documents since 1890 . State documentary publications are also being systematically collected in cooperation with the University of North Carolina. A representative collection of European public documents has been secured. Among them are the British Parliamcntary Papers (since 1925), Calendar of State Papcrs, the Acts of the Privy Council, Hansard's Debates, the Débats Parlementaircs of the French Senate and Chamber of Deputies, the Journal Officiel de la République Française, the Bulletin des Lois de la République Française, the Reichsgesetzblatt, the Vcrhandlungcn des Reichstags, the Atti of the Italian Parliament, the Diario of the Spanish Cortes. The public documents of the Latin-American countries, especially Argentina, Bolivia, Brazil. Chile, Ecuador, Peru, and Uruguay form one of the strongest units of the Library. The publications of the League of Nations, United Nations, and International Labour Office, of course, are present.

Under this heading should be mentioned also the Library of Professor Louis Strisower, sometime President of the Institut de Droit International, which contains approximately five thousand volumes dealing with international law. The volumes date from the seventeenth century to the present and contain some especially valuable periodical files and rare books.

## Publications of European Academies

The Duke University Library has the publications of many of the European academies, containing monographs in most of the fields of knowledge and constituting important sources for the research programs of graduate students and faculty. The sets comprise over four thousand volumes and include Prcussische Akademie der Wissenschaften (Berlin) ; Gescllschaft der Wissenschaften zu Göttingen; Heidelberger Akademie der Wissenschaften; Akademie der Wissenschaften (Vienna) ; Académie des sciences (Paris); Académie des inscriptions et belles-lettres (Paris); Académie des sciences morales et politiques (Paris); Accademia nazionale dei lincei (Rome); Accademia pontificia dei nuovi lincei (Rome); Real
academia española (Madrid); Academia de la historia (Madrid); Akademiiua nauk (Leningrad); Dansk videnskabernes selskab (Copenhagen) ; Norske videnskaps-akademi i Oslo; Akademie van Wetenschappen (Amsterdam); Académie royale des sciences, des lettres et des beauxarts de Belgique (Brussels).

## Newspapers

The Newspaper Collection of the Library contains about 13,000 volumes and 2,000 rolls of microfilm. Most of the states of the Union are represented, although a large percentage of the papers are from the Atlantic seaboard-about fifty per cent representing the South and thirty per cent the Northeast. Of the eighteenth-century titles, the states best represented are Massachusetts, Maryland, New York, Rhode Island, Georgia, Virginia, North Carolina and South Carolina. The collection of nine-teenth-century New England papers is strong, but especially extensive are the Library's holdings of North Carolina, South Carolina, and Virginia newspapers for the Ante-Bellum and Civil War periods. The years of World War I are covered by twenty-eight fairly complete files. Foreign newspapers include The (London) Times from 1785, and about a dozen virtually complete runs of European and Latin-American papers from the 1920's and early 1930's. The current subscription list contains seventy papers, about one-half of which are foreign.

## Manuscripts

The manuscript collection now contains $1,500,000$ items relating chiefly to the South Atlantic region. Most numerous are records of military, social, and economic life in the Confederate period, including letters, diaries, rosters, military reports, statutes of the Confederate Congress, court records, and papers of various departments of the Confederate Government. Outstanding among the many papers providing a well-rounded picture of life in the South during the nineteenth century are original census returns of Georgia, Kentucky, Louisiana, and Tennessee for 1850 and 1860. The collection, most extensive in the field of history, contains information on all phases of social and economic life as well as politics. Numerous large collections bear particularly on the history of Alabama, Georgia, North Carolina, South Carolina, and Virginia. Of interest for historical studies are the papers of P. G. T. Beauregard, John C. Calhoun, David Campbell, Robert Carter, Clement C. Clay, Henry Clay, William H. Crawford, John J. Crittenden, Jefferson Davis, Nathanaei Greene, Andrew Jackson, Robert E. Lee, Alfred T. Mahan, Alexander H. Stephens, and others. For the later period the papers of Furnifold W. Simmons and Josiah W. Bailey, senators from North Carolina, are significant. The field of American literature is represented by papers of Thomas Holley Chivers, John Esten Cooke, Clara V. Dargan, Paul Hamilton Hayne, George Frederick Holmes, Alexander B. Meek, Thomas Nelson Page, Augustin L. Taveau, and Walt Whitman. Among British and literary materials there are interesting groups of papers relating to George Moore, the Rossettis, Robert Southey, and Tennyson. Of the
medieval manuscripts, consisting chiefly of lectionaries and copies of the New Testament, a thirteenth-century New Testament in Greek, and a Greek liturgical scroll of the Byzantine Empire are noteworthy. The Library has recently acquired the extensive official files of the Socialist Party of America extending from 1901 to 1938; and a collection of the papers of George Holyoake, English cooperator and secularist of the nineteenth century.

A Guide to the Manuscript Collections in the Duke University Library, which describes the papers comprising the collection in 1942, was issued in 1947 as Series 27 and 28 of the Historical Papers of the Trinity College Historical Society. This index was prepared by Nannie M. Tilley, then curator of manuscripts, and her assistant, Noma Lee Goodwin.

## Exchange Privileges with the Library of the <br> University of North Carolina

The libraries of Duke University and of the University of North Carolina have arrangements for the fullest exchange of privileges and resources. Each library contains a catalogue of the contents of the other. Books are secured on loan for students and faculty through a delivery service which operates between the libraries every other day. Faculty members and graduate students may secure cards admitting them to the stacks of the other library. The Library of the University of North Carolina contains about 540,000 volumes, and a large collection of manuscripts relating to Southern history. Under this arrangement $1,450,000$ volumes and about $4,000,000$ manuscripts are available to students of the two institutions.

## SCIENCE LABORATORIES

## BOTANICAL AND ZOOLOGICAL LABORATORIES

Facilities for graduate study in the Departments of Botany and Zoology are for the most part concentrated in the Biology Building on the West Campus. In addition to well-equipped laboratories for teaching and research in the various fields of botany and zoology, special facilities, such as animal rooms, greenhouses, darkrooms, a small shop, a refrigerated room, and an air-conditioned room are available.

The Botany herbarium, containing over 125,000 specimens, is particularly strong in material from the Southeast and includes notable collections of mosses, ferns, and grasses. The Biology-Forestry Library contains an outstanding collection of books and serials, including most of the important American and foreign periodicals, in botany, forestry, zoology and related fields.

Unique assets for teaching and research are the Sarah P. Duke Gardens, conveniently accessible on the West Campus; the Duke Forest, comprising some eight thousand acres of woodland adjacent to the West Campus; and the Duke University Marine Laboratory at Beaufort, North Carolina. The marine station is exceptionally well located for the study of animal and plant life in the ocean and in the coastal plains area. Graduate courses of instruction are given at the Marine Laboratory dur-
ing the summer months; research facilities are available throughout the year.

Scholarships for advanced study during the summer months are maintained at the Highlands Laboratory, Highlands, North Carolina, and at the Marine Biological Laboratory, Woods Hole, Massachusetts. Requests for additional information concerning these scholarships should be addressed to the Zoology Department.

## PHYSICAL LABORATORIES

A new physics building has just been completed. It has 62,500 square feet of floor space and is of the most modern type.

In addition to the usual lecture halls and elementary laboratories, there are special laboratories for work in electrical measurements, electronics, microwaves, optics, atomic physics, and mechanics. A new laboratory for training in radioactive measurements has recently been added.

The research laboratories contain the following special equipment: a new 21 ft . concave grating and other instruments for visible, ultraviolet, infrared, and Raman spectra are available for research in spectroscopy. Extensive and well equipped laboratories are provided for research in microwaves and microwave spectroscopy in both the centimeter and millimeter range. New type crystal counters, proportional counters, and ion chambers are used for cosmic ray research.

The department has available, in addition to University appointments, a number of research fellowships for work under government contracts and from grants by industry and scientific foundations.

The new physics building contains also a departmental library, a liquid air plant, and shop facilities. The main shop is staffed by four instrument mechanics, two electronic technicians, and a glassblower. There is also a separate shop for use of graduate students.

## CHEMICAL LABORATORIES

Graduate work in chemistry is carried on in a modern building with a floor area of about 57,000 square feet. Of this total space a large proportion is available for research and advanced teaching. There are twentyfive double research rooms completely equipped with the usual services. In addition, a number of specially designed rooms are available for present or future research, such as a photographic room, constant temperature room, distillation room, and rooms equipped for dielectric constant and magnetic measurements.

A glassblowing room and a well-equipped shop, operated by a competent mechanic, provide facilities for the construction of special apparatus and for the repair and maintenance of instruments.

## MEDICAL SCHOOL

In the School of Medicine elaborate facilities are provided for postgraduate research in the various branches of medical science. The Departments of Anatomy, Bacteriology and Immunology, Biochemistry and Nutrition, and Physiology and Pharmacology offer certain courses and research facilities to students in the Graduate School of Arts and Sciences. The use of the Duke Hospital Library is available to all graduate students.

## OAK RIDGE INSTITUTE OF NUCLEAR STUDIES

Duke University is one of the sponsoring universities of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Institute, the graduate research program has at its disposal all the facilities of the National Laboratories in Oak Ridge and of the research staffs of these laboratories.

## DUKE FOREST

The Duke Forest consists of approximately eight thousand acres of land, most of which is adjacent and easily accessible to the University campus. Situated in the lower Piedmont region and composed of secondgrowth shortleaf pine, loblolly pine, and hardwoods, the Forest is representative of the various types of timber growth and soils found throughout the region. Through placing the Forest under intensive management for forestry purposes, substantial progress has been made in developing the educational work and research in forestry.

The proximity of the Forest to the laboratories, greenhouses, and library facilities of the University provides an excellent opportunity for advanced study and research in forestry. Research, particularly in the fields of silvics, forest soils, silviculture, forest management, properties of wood, forest-tree physiology, forest entomology, and forest pathology, is well under way. Several members of the Botany and Zoology staffs are also engaged in research in the Duke Forest.

For additional information see the Bulletin of the School of Forestry.

## ENCOURAGEMENT OF RESEARCH

The President of the University appoints annually a University Council on Research. The members of this Council are chosen from the Faculties of the Schools of Medicine and of Law, the Divinity School, and the Graduate School of Arts and Sciences. In May of each year the Council on Research receives written applications from members of the Faculty for subsidies to be used in the following fiscal year to aid them in carrying out research projects. Stipends are granted for the employment of research assistants, for the purchase of books, and for apparatus, supplies, and equipment. Each member of the Faculty to whom a research stipend is granted must make a written report within twelve months to the Council concerning the progress of the investigation for which the stipend was allowed.

## SPECIAL LECTURES

During each academic year the University Lecture Committee arranges for special lectures of value to graduate students interested in various fields of knowledge. The Woman's College Lecture Series brings other guests to the campus. In addition to these lectures, a number of distinguished speakers appear each year on the programs of various schools and departments of the University.

Among the guest lecturers during the academic year 1949-50 were

Hanson Baldwin, Military Critic for the New York Times, and Mrs. G. D. H. Cole, noted English writer.

## THE UNIVERSITY PRESS

In 1897 Trinity College began sponsoring the publication of "The Historical Papers of the Trinity College Historical Society," which was distributed to members of the Society and by exchange to other institutions. This series was the first publishing venture of the College. In 1902, the 9019, an honor scholastic society on the campus, founded The South Atlantic Quarterly, which is now published by the Press.

In 1921 the Trinity College Press was established to publish the results of research engaged in by the Faculty and such other works as were approved by a board of editors appointed for the purpose. In 1925, with the acceptance of the benefaction of James B. Duke, Trinity College became one of the undergraduate colleges of Duke University, and the following year the University Press was organized to succeed the Trinity College Press.

One of the first steps of the new organization was to revive The Hispanic American Historical Review, which had been founded and published from 1918 to 1922 by a group of scholars interested in Hispanic America. Since 1926 its publication has been continued without interruption, and its mission has been supplemented by many studies dealing with the history, politics, and foreign relations of the Hispanic nations of the New World. In 1929 American Literature was begun with the co-operation of the American Literature Group of the Modern Language Association. This journal was followed in 1931 by Ecological Monographs, a quarterly sponsored by the Ecological Society of America, to take care of papers too long for inclusion in Ecology, which began to appear under the auspices of the Press in 1948. Character and Personality, since 1945 the Journal of Personality, was founded in 1932 as a medium for the publication of studies in fields related to this phase of psychology. In 1935 the Press started the publication of the Duke Mathematical Journal, with the co-operation of the Mathematical Association of America, and in 1937 The Journal of Parapsychology for the publication of the results of research in extrasensory perception and related topics. The Law School of Duke University publishes Law and Contemporary Problems, a quarterly presenting in each issue a symposium treating the legal, economic, and other social-science aspects of current problems. The faculty of the Law School also edits The Journal of Legal Education, which is the official publication of the Association of American Law Schools.

Besides its books, monographs, and regular quarterly publications, the Press issues "Contributions to Psychological Theory" and "Duke University Research Studies in Education," the latter sponsored by the Department of Education of the University. It publishes also the Bulletin of the University Marine Laboratory at Beaufort, North Carolina.

Since its organization the Press has offered to the public the products of scholarly research to the number of more than two hundred volumes.

It has not limited its scope to any one field or to any one group of authors. In addition to the many works submitted by members of the Faculty and alumni, a great number of titles by authors without a connection with the University have been issued under the imprint of the Press.

In the broadest sense, the policy of the Press is to make available to the public any scholarly work which, because of the merit of its contents, its style, and its general value, deserves publication, though special attention is given to works in domains of knowledge cultivated by the University and to works pertaining to the region south of the Potomac.

## COURSES OF INSTRUCTION

This is a condensed description of courses. For a full description, see Bulletin of the Graduate School.

Certain undergraduate courses are open to graduate students with the approval of the Department. See the Bulletin of Undergraduate Instruction.

## AESTHETICS, ART, AND MUSIC

professor katharine gilbert, chairman- 100 asbury building; assistant PROFESSOR MARKMAN
No graduate degree is offered in this department, but the following courses are suggested as possible minors for students majoring in history, literature, philosophy, religion, psychology, or sociology, or in any other interested departments.


DIVISION OF ANCIENT LANGUAGES AND LITERATURES
professors clark, rogers, and stinespring; assistant professors brownlee, rose, truesdale, way, and young

## GREEK

For seniors and graduates
201-202. Greek Tragedy.-6 s.h. Assistant Professor Truesdale 203-204. Homer.-Odyssey. Pindar and Bacchylides. 6 s.h.

Assistant Professor Truesdale
Assistant Professor Rose
Assistant Professor Way
209-210. Plato.-Symposium, Protagoras, and parts of the Republic. 6 s.h.
Assistant Professor Way
211-212. Aristophanes. -6 s.h.
Assistant Professor Truesdale
(Only one of the six courses listed above is offered each year.)
243. Athenian Topography.-3 s.h.
244. Greek Epigraphy.-3 s.h.
245. Greek Dialects.-3 s.h.
246. Greek Historical Inscriptions.-3 s.h.

Assistant Professor Way
Assistant Professor Way
Assistant Professor Way
Assistant Professor Way

247-248. Greek Archaeology.-6 s.h.
Assistant Professor Way
(Of the courses numbered from 243 to 248 , only two semester-courses are offered each year.)
257. Social and Cultural History of the Hellenistic World from Alexander to Augustus.-3 s.h. Professor Rogers

## FOR GRADUATES

The more advanced work of the graduate department is done in the seminar. One author or group of authors forms the center of study each year. Seminars are offered in Aristophanes (301-302), The Greek Historians (303-304), The Attic Orators (305-306), and The Greek Tragic Poets (307308). These run through a cycle of four years. In 1950-51 the work will be: 301-302. Aristophanes.

Graduate students of Duke University may attend the American School of Classical Studies in Athens, Greece, without charge for tuition, and they are eligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology, and one in the language, literature, and history of ancient Greece, each with a stipend of $\$ 1,300$. They are azearded mainly on the basis of examinations held in the beginning of February of each year.

## LATIN AND ROMAN STUDIES

FOR SENIORS AND GRADUATES
201. Roman Fiction.
202. Latin Christian Writers.

203-204. Roman Epic: Ennius, Vergil, Manilius, Lucan, Flaccus, Statius. Silius.-Not offered if 205-206 is given. 6 s.h.

205-206. Roman Drama: Plautus, Terence, Seneca.-6 s.h.
207-208. Roman Philosophy.
209-210. Vulgar Latin: Introduction to Romance Philology.
211-212. Roman Oratory.-6 s.h.
Professor Rogers
215. Introduction to Roman Art and Archeology.
216. Topography and Monuments of Ancient Rome.

251-252. Roman Life.
258. Social and Cultural History of the Graeco-Roman World.- 3 s.h.

Professor Rogers
281-282. Roman Historical Literature.
283-284. Roman Law.-6 s.h.
Professor Rogers
FOR GRADUATES
309-310. Sight Reading and Composition.- 6 s.h.
Assistant Professor Rose
311-312. Latin Epigraphy.-Second semester. 6 s.h. Professor Rogers
Seminars: Various authors or historical periods are selected from year to year as a basis for training in criticism and research. Seminars are offered in the following: Catullus (301-302), Roman Historians (331-332),

Roman Provincial Administration (341-342), The Reign of Tiberius (343344), Martial (351-352), Horace (361-362), Lucretius (371-372), and Cicero's Public Career (391-392). The seminar planned for $1950-51$ is:

331-332. Roman Historians.-6 s.h.

## LINGUISTICS

FOR GRADUATES
375-376. Greek and Latin Linguistics.-6 s.h. Assistant Professor Rose 385-386. Elementary Sanskrit.-6 s.h. Assistant Professor Rose

SEMITICS
FOR SENIORS AND GRADUATES
201-202. First Hebrew.-6 s.h.
Professor Stinespring
205-206. Elementary Arabic.-6 s.h.
Professor Stinespring
[Not offered in 1950-51]
207-208. Second Hebrew.-6 s.h. Assistant Professor Brownlee
FOR GRADUATES
304. Aramaic.-3 s.h.

Professor Stinespring
305. Third Hebrew.-3 s.h.

Professor Stinespring
[Not offered in 1950-51]
307. Syriac.-Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h.
[Not offered in 1950-51]
Professor Stinespring
309. History of the Ancient Near East.-3 s.h. Professor Stinespring
related courses in other departments
Philosophy 217. Philosophy of Aristotle.-3 s.h.
Associate Professor McLarty
Religion 217. The New Testament in Greek.-3 s.h. Professor Clark
Religion 218. Galatians and I Corinthians.-3 s.h. Professor Clark
Religion 220. I Peter and the Gospel of John.-3 s.h. Professor Clark
Religion 313.-The Apostolic Fathers.-3 s.h. Professor Clark
Religion 316. Hellenistic Religions at the Beginning of the Christian Era. -3 s.h.

Professor Clark
Religion 318. Text of New Testament.-3 s.h. Professor Clark

## BOTANY

PROFESSOR BLOMQUIST, CHAIRMAN-203 bIOLOGY BUILDING; PROFESSOR KRAMER, director of graduate studies-04 biology building; professors addoms, harrar, oosting and wolf; associate PROFESSORS ANDERSON AND PERRY

## FOR SENIORS AND GRADUATES

202. Genetics.-Prerequisites : one year of botany, zoology, or equivalent, and college algebra. 4 s.h.

Associate Professor Perry
203. Plant Cytology.-Prerequisite : one year of botany. 4 s.h.

Associate Professor Anderson
204. Advanced Plant Anatomy.-Prerequisite: Botany 55 or equivalent. 4 s.h. Professor Addoms
216. Botanical Microtechnique.-Prerequisite: two semesters of botany. 4 s.h.

Associate Professor Anderson
221. Structure and Classification of Fungi.-Prerequisite: two semesters of botany. 4 s.h. Professor Wolf
222. Physiology and Ecology of Fungi.-Prerequisite: Botany 221 or equivalent. 4 s.h.

Professor Wolf
225-226. Special Problems.-Credits to be arranged.
(a) Bacteriology, Mycology, and Plant Pathology. Professor Wolr
(b) Cytology. Associate Professor Anderson
(c) Ecology.
(d) Genetics.

Professor Oosting
Associate Professor Perry
(e) Morphology and Anatomy of Higher Plants.

Professors Addoms, Harrar and Oosting
(f) Morphology and Taxonomy of Lower Groups.

Professor Blomquist and Associate Professor Anderson
(g) Physiology.
(h) Plant Microchemistry.
(i) Taxonomy of Higher Groups.

Professors Addoms and Kramer Professor Addoms
252. Advanced Plant Physiology.-Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 4 s.h. Professor Kramek
255. Advanced Taxonomy.-Prerequisite : two years of botany, including Botany 52 or equivalent. 4 s.h. Professor Blomquist
256. Field Ecology.-4 s.h.

Professor Oosting
FOR GRADUATES
305. Plant Geography.-Prerequisite: Botany 156 or equivalent. 4 s.h. Professor Oosting
310. Structure and Classification of Bryophytes and Pteridophytes.-4 s.h. Professor Blomquist
311. Structure and Classification of Algae.-4 s.h. Professor Blomquist
341. Methods in Plant Physiology.-4 s.h.

Professor Kramer
342. Plant Microchemistry.-2 s.h.

Professor Addoms
359-360. Research in Botany.-Credits to be arranged.
Professors Addoms, Blomquist, Harrar, Kramer, Oosting, Wolf; Associate Professors Anderson and Perry

397-398. General Botanical Seminar.-2 s.h.
Professors Addoms, Blomquist, Harrar, Kramer, Oosting, Wolf; Associate Professors Anderson and Perry

## FOREST BOTANY

FOR SENIORS AND GRADUATES
224. Forest Pathology.-Prerequisites: Botany 1 and 2. 4 s.h.

Professor Wolf
253. Dendrology.-Prerequisite : one year of botany. 3 s.h.

Professor Harrar

## RELATED COURSES IN OTHER DEPARTMENTS

These related courses may be counted toward a major in botany.
Forestry 257. Design of Forestry Experiments and Analysis of Data. 5 s.h.

Professor Schumacher
Zoology 341. Historical Zoology.-2 s.h.
Professor Hargitt

## CHEMISTRY

Professor saylor, executive officer-115a chemistry building; professor VOSBURGH, DIRECTOR OF GRADUATE STUDIES-211 CHEMISTRY BUILDING; PROfessors bigelow, gross, hauser, and london ; associate professors bradsher, brown, hill, and hobbs

FOR SENIORS AND GRADUATES
206. Elements of Theoretical Chemistry.-Prerequisites: Chemistry 70, 151-152, Physics $51-52$ or 1-2 and Mathematics 6 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h. Professor Saylor and Associate Professor Hobbs

215-216. Advanced Inorganic Chemistry.-Prerequisites: Chemistry 70, 151-152, and 261-262, or 206. 6 s.h.

Professor Vosburgh and Associate Professor Hill
233. Instrumental Analysis.-Prerequisites: Chemistry 70 and one year of physics. 2 s.h.

Associate Professor Hobbs; Professors Saylor and Vosburgh
234. Physico-Chemical Methods of Analysis.-Prerequisites: Chemistry 70 and 261-262; the latter may be taken concurrently. 2 s.h.

Associate Professor Hobbs; Professors Saylor and Vosburgh
236. Theory of Analytical Chemistry.-Prerequisites: Chemistry 70 and 261-262. 1 s.h.

Professor Vosburgh
251. Qualitative Organic Analysis.-Prerequisites: Chemistry 70 and 151152. 2 or 3 s.h. Professor Hauser
252. Advanced Organic Preparations.-Prerequisite: Chemistry 151-152. 1 or 2 s.h. Associate Professor Brown and Professor Bigelow

253-254. Advanced Organic Chemistry.-Prerequisites: Chemistry 70 and 151-152. 4 s.h.

Professors Bigelow and Hauser
261-262. Physical Chemistry.-Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics $51-52$ or equivalent. 6 s.h.

Associate Professor Hobbs and Professor Saylor
265-266. Chemical Physics. Statistical Theory.-6 s.h. Professor London
267-268. Chemical Physics. Quantum Theory of Atomic and Molecular Structure.-6 s.h.

Professor London
271. Introduction to Research.-1 s.h. Professors Bigelow and Vosburgh

273-274. Seminar.-2 s.h.
Professors Bigelow, Gross. Hauser, Saylor, and Vosburgh;
Associate Professors Bradsher, Brown, Hilr., and Hobbs
275-276. Research.-3 or 6 s.h.
Professors Bigelow, Gross, Hauser, London, Saylor, and Vosburgh; Associate Professors Bradsher, Brown, Hill, and Hobbs
303. Thermodynamics. -3 s.h.

Professors Saylor and Vosburgh
304. Physical Chemistry of Reactions.-Prerequisite: Chemistry 261-262. 3 s.h.

Associate Professor Hobbs
350. Organic Reactions.-Prerequisites: Chemistry 251 and 253.2 s.h. Associate Professor Bradsher
351-352. Advanced Synthetic Organic Chemistry.-2 s.h.
Professors Bigelow and Hauser
363-364. Advanced Physical Chemistry.-Prerequisites: Chemistry 261-262 and 303, or equivalent. 4 s.h. Professors Saylor and Vosburgh ; Associate Professors Hill and Hobbs

## RELATED COURSES IN OTHER DEPARTMENTS

Biochemistry and Nutrition
M241. General Biochemistry and Nutrition.-Prerequisites : general chemistry, organic chemistry, elementary physical and analytical chemistry, and at least one year of college biology. February-June. 8 s.h. Staff

M242. Biochemical Preparations.-Prerequisite: Biochemistry M241. Hours by arrangement. 2, 3, 4 s.h. Drs. Neurath, Handler, and Schwert

M343-344. Biochemistry of Proteins and Enzymes.-4 s.h.
Drs. Neurath and Schwert
M349-350. Intermediary Metabolism.-Prerequisite: Biochemistry M241 or its equivalent. 4 s.h.

Dr. Handler
M341. Theories and Methods of Physical Biochemistry.-2 s.h.
Drs. Neurath and Schwert
M351-352. Nutrition.-Prerequisite : Biochemistry M241 or its equivalent. Given alternately with Biochemistry M349-350. 4 s.h.

Dr. Handler

## Microbiology

M322. Immunochemistry.-A seminar. 2 s.h. Dr. Neurath

## ECONOMICS

PROFESSOR HOOVER, CHAIRMAN- 320 LIBRARY; PROFESSOR SPENGLER, DIRECTOR OF GRADUATE STUDIES- 322 LIBRARY; PROFESSORS BLACK, DE VYVER, HUMPHREY, RATCHFORD, SIMMONS, SMITH, AND VON BECKERATH; ASSOCIATE

PROFESSOR HANNA
FOR SENIORS AND GRADUATES
204. Advanced Money and Banking.-3 s.h.

Professor Simmons
215. Economic Systems.-3 s.h.

Professor Hoover
216. Economic Functions of the State.-Prerequisite: Economics 215 or its equivalent. 3 s.h.

Professor Hoover
217. Population Problems and Resources.-3 s.h.
218. Business Cycles.-3 s.h.
231. The Economic History of Europe.-3 s.h.
233. State and Local Finance.-3 s.h.
234. Federal Finance. -3 s.h.
236. Taxation and Government Finance.-3 s.h.

Professor Spengler

## Professor Humphrey

Professor Smith
Professor Ratchford
Professor Ratchford
Professor Ratchford

237-238. Statistical Methods.-Prerequisite: Economics 138 or consent of the instructor. 6 s.h.

Associate Professor Hanna
241-242. Value and Distribution.-6 s.h.
Professor Spenglek
245. Problems of Modern Industrialism.-3 s.h.

Professor von Beckerath
256. Labor Legislation.-3 s.h. Professor de Vyyer
260. Social Insurance.-3 s.h.

Professor de Vytek
265. International Trade and Finance.-3 s.h.
268. Competitive versus Monopolistic Enterprise.-3 s.h.

Professur von Beckerath
275-276. Advanced Industrial Accounting and Management.-Courses 5758 and 105 are ordinarily prereguisites for this course. 5 s.h.

Professor Black
FOR GRADUATES
304. Seminar in Money and Banking.-3 s.h.

Professor Simmons
311-312. History of Political Economy.-6 s.h. Professor Spengler
313-314. Seminar in Economic Theory.-Prerequisite: Economics 241-242 or its equivalent. 6 s.h.

Professor Hoover
317. Seminar in Population Problems.-3 s.h.

Professor Spengler
318. General Seminar in Economics.-Year course. No credit. Staff
319. Seminar in the Theories and Problems of Economic Change.-3 s.h.

Professor Spengler
320. Seminar in Business Cycles.-3 s.h. Professor Humphrey
330. Seminar in Public Finance.-3 s.h. Professor Ratchford
331. Research in Economic History: A Seminar.-3 s.h. Professor Smith
343. Seminar in Financial Organization.-3 s.h. Professor Ratchford
355. Seminar in Labor Problems.-3 s.h.
365. Seminar in International Trade.-3 s.h.

Professor de Vyver
368. Seminar in Marketing Problems.-3 s.h.

Associate Professor Landon
386. Seminar in Latin-American Economic Problems.-3 s.h.

Professor Smith
389. Seminar in Business and Government.-3 s.h. Professor Humphrey
related courses in other departments
The following course, included in the curriculum of the School of Law. carries economics credit for economics majors:

Public Control of Business Seminar.-3 s.h.
Professors Livengood and Spengler
Attention is called to the following courses in related departments:
Forestry 277. Economics of Forestry.-3 s.h.
Professor Thomson
History 219-220. The History of the European Proletariat.-6 s.h.
[Not offered in 1950-51]
Professor Carroll
Political Science 207. American Constitutional Law and Theory.-3 s.h.

## EDUCATION

PROFESSOR PROCTOR, ACTING CHAIRMAN AND ACTING DIRECTOR OF GRADUATE STUDIES
-2A WEST DUKE BUILDING; PROFESSORS CARR, CHILDS, AND NAHM; ASSOCIATE PROFESSORS BOLMEIER, EASLEY, RUDISILL, AND STUMPF

## ELEMENTARY EDUCATION

FOR SENIORS AND GRADUATES
207. Technique of Teaching.-3 s.h.

Professor Carr
[Not offered in 1950-51]
212. Psychology of the Elementary School Subjects.-3 s.h.
[Not offered in 1950-51]
Professor Carr
222. The Curriculum and Materials of the Elementary Grades.- 3 s.h.

Professor Carr
232. Supervision of Instruction.-3 s.h.

Professor Carr
235. The Nature, Function, and Reorganization of the Curriculum.- 3 s.h.

Professor Carr

## EXPERIMENTAL EDUCATION AND EDUCATIONAL PSYCHOLOGY

FOR SENIORS AND GRADUATES
208A. Mental Tests and Applications.-Prerequisite: course 258 or six semester hours of other work in educational psychology or psychology. $3 \mathrm{~s} . \mathrm{h}$. Associate Professor Easley
208B. Practicum.-2 s.h.
Associate Professor Easley
209. Statistical Methods Applied to Education.-3 s.h.

Assoctate Professor Stumpf
210. Introduction to Educational Research. - 3 s.h.

Associate Professor Stumpf
216. Psychological Principles of Secondary Education.-3 s.h.
[Not offered in 1950-51] Professor Childs
217. The Psychological Principles of Education.- 3 s.h.

Associate Professor Easley
227. The Psychology of Learning: Problems.-3 s.h.
[Not offered in 1950-51] Associate Professor Easley
228. The Psychology of Learning: Theoretical and Experimental.-Prerequisite: course 227 or its equivalent. 3 s.h. Associate Professor Easley
237. Investigations in Reading.-3 s.h. Associate Professor Rudisill
258. Educational Measurements.-Prerequisite: twelve semester hours in the Department, including a course in educational psychology. 3 s.h.
[Not offered in 1950-51]
FOR GRADUATES
307-308. Seminar in Educational Psychology.-4 s.h.
[Not offered in 1950-51]
318. Educational Implications of Genetic Psychology.-Prerequisite : six semester hours of psychology or educational psychology. 3 s.h.
320. Advanced Educational Statistics.-3 s.h.
339. Research Course in Educational Tests.-Prerequisite : the equivalent of course $258.3 \mathrm{~s} . \mathrm{h}$.
[Not offered in 1950-51]

## history and philosophy of education

FOR SENIORS AND GRADUATES
200. Introduction to the Philosophy of Education.-3 s.h.
[Not offered in 1950-51]
204. The School as an Institution.-3 s.h. Associate Professor Bolmeier
214. History of Education in the United States.-3 s.h.
[Not offered in 1950-51]
244. Studies in the Historical Development of Public School Administra-tion.- 3 s.h.
[Not offered in 1950-51]
254. History of Secondary Education in the United States.-3 s.h.
[Not offered in 1950-51]
Professor Proctor

## PUBLIC SCHOOL ADMINISTRATION

FOR SENIORS AND GRADUATES
203. Principles of School Administration.-Prerequisite: Education 103 and 88 , or six semester hours of equivalent work in education. 3 s.h.

Professor Proctor and Associate Professor Bolmeier
213. Problems in the Organization and Administration of the Elementary School.-3 s.h.

Professor Proctor
233. Administrative Pupil-Accounting.-3 s.h.

Professor Proctor
[Not offered in 1950-51]
234. Secondary School Organization and Administration.-3 s.h.

Associate Professor Bolmeier
253. Legal Phases of School Administration.-3 s.h.
[Not offered in 1950-51]
FOR GRADUATES
323. Public School Finance.-3 s.h. Associate Professor Stumpf

330-331. Public School Administration, Seminar I.-6 s.h. each semester. Professors Carr and Proctor, and Associate Professors Bolmeier and Stumpf
332-333. Public School Administration, Seminar II.-6 s.h. each semester. Professors Carr and Proctor, and Associate Professors Bolmeier and Stumpf
343. State and County School Administration.-3 s.h. Professor Proctor [Not offered in 1950-51]
363. City School Administration.-3 s.h.

Professor Proctor

## SECONDARY EDUCATION AND EDUCATIONAL SOCIOLOGY

## FOR SENIORS AND GRADUATES

205. Curriculum Problems in Secondary Education.-3 s.h.
[Not offered in 1950-51]
Professor Childs
206. Sociological Foundations of the Secondary School Subjects.-Prerequisites: six semester hours in education, including course 105. 3 s.h.

Professor Childs
215. Educational and Vocational Guidance.-Prerequisites: twelve semester hours in the Department, including course 105 or course 206. 3 s.h.

Professor Childs
225. The Teaching of History and the Social Studies. -3 s.h.

Professor Manchester
246. The Teaching of Mathematics.-3 s.h.

Professor Rankin
[Not offered unless justified by enrollment]

## NURSING EDUCATION

310. Nursing Education: Organization and Administration in Nursing Schools. -4 s.h.

Professor NaHm
[Not offered in 1950-51]
311. Nursing Education: Problems of Personnel Administration in Nursing. -4 s.h.
[Not offered in 1950-51]
312. Nursing Education: Research Problems.-4 s.h. Professor Nahm
[Not offered in 1950-51]
METHODOLOGY OF RESEARCH
FOR GRADUATES
301. Methods of Educational Research: Seminar.-3 s.h.

Professors Carr, Childs, and Proctor
related courses in other departments
FOR MAJORS IN EDUCATIONAL PSYCHOLOGY, ELEMENTARY EDUCATION,
AND SECONDARY EDUCATION
Philosophy 208. Political Philosophy.-3 s.h. Professor Negley
Philosophy 242. Scientific Methodology.-3 s.h.
Psychology 206. Social Psychology.-3 s.h. Professor Adams
Psychology 207. Psychology of Memory, Thinking, Perceiving.-3 s.h.
[Not offered in 1950-51] Professor Zener
Psychology 209. Experimental Methods in Human Psychology.-4 s.h.
Professor Zener
Psychology 212. Physiological Psychology.-3 s.h. Professor Zener
Psychology 215. Developmental Psychology.-3 s.h. Professor Adams
Psychology 226. Psychology: Historical and Theoretical.-3 s.h.
[Not offered in 1950-51] Professor Zener
Psychology 306. Seminar in Child Psychology (Clinical).-2 or 3 s.h.
Professor Adams
Psychology 309. Theory of Learning.-3 s.h.
Professor Adams
Psychology 310. Seminar: Selected Problems in the Dynamics of Behavior. -3 s.h.

Professor Zener
Sociology 249. Child Welfare.-3 s.h.
[Offered in Summer Session, 1950] Professor Jensen
Sociology 381. Principles of Sociology.-3 s.h. Professor Jensen
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen
FOR MAJOKS IN PUBLIC SCHOOL ADMINISTRATION
Economics 217. Population Problems and Resources.-3 s.h.
Professor Spengler
Economics 233. State and Local Finance.-3 s.h. Professor Ratchford

Economics 234. Federal Finance.-3 s.h. Professor Ratchford
Economics 236. Taxation and Government Finance.-3 s.h.
Professor Ratchford
Political Science 209. State and Local Government in the United States.3 s.h.

Professor Rankin
Political Science 230. American Political Institutions.-3 s.h.
Professor Rankin
Political Science 231. American Political Theory.-3 s.h.
Professor Hallowell
Political Science 241-242. The Administrative Process. -6 s.h.
Professor Connery
Political Science 291. Municipal Government.-3 s.h. Professor Rankin Political Science 292. Municipal Administration.-3 s.h.

Professor Rankin
Sociology 233. Rural Sociology.-3 s.h. Professor Thompson
[Offered in Summer Session, 1950]
Sociology 235. Urban Sociology.-3 s.h. Professor Thompson
Sociology 237. Community and Society.-3 s.h. Professor Thompson
Sociology 243. Social Attitudes and Collective Behavior.-3 s.h.
Associate Professor Schettler
Sociology 246. Public Opinion and Propaganda.-3 s.h.
Associate Professor Schettler

FOR MAJORS IN HISTORY AND PHILOSOPHY OF EDUCATION
History 209-210. Constitutional History of the United States, 1763-1860.— 6 s.h.
[Not offered in 1950-51]
Philosophy 205. The Philosophy of History.-3 s.h. Professor Widgery
Philosophy 208. Political Philosophy.-3 s.h. Professor Negley
Philosophy 223. Contemporary Philosophy.-3 s.h. Professor Patterson
Religion 395. Religious Thought in Colonial America.-3 s.h.
Professor Smith
Religion 396. American Religious Thought in the Nineteenth Century.3 s.h.

Professor Smith
Sociology 286. Social Ethics.-3 s.h. Professor Hart
Sociology 381. Principles of Sociology.-3 s.h. Professor Jensen
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen

## ENGLISH

professor irving, chairman-2G5 west duke bullding; professor baum, director of graduate studies- 402 library; professors brinkley, gIlbert, goHDEs, HUBBELI., AND LEARY; ASSOCIATE

PROFESSOR WARD
FOR SENIORS AND GRADUATES
201-202. Anglo-Saxon.-6 s.h.
Professor Baum
[Not offered in 1950-51]
203-204. Chaucer.-6 s.h.
Professor Baum

205-206. Middle English.-6 s.h. Professor Baum
215-216. Elizabethan Drama.-6 s.h. Professor Gilbert
217. Milton.-3 s.h.

Professor Gilbert
[Not offered in 1950-51]
218. Spenser.-3 s.h.

Professor Gilbert
Professor Irving
219-220. The Eighteenth Century.-6 s.h.
221-222. English Literature of the Early Nineteenth Century.-6 s.h.
Visiting Professor Foerster
223-224. English Literature of the Later Nineteenth Century.-6 s.h.
[Not offered in 1950-51]
Professor Baum
227. Literary Criticism.-3 s.h.

Professor Gilbert
229-230. American Literature, 1800-1870.-6 s.h.
Professors Hubbell and Leary
233-234. American Literature since 1870.-6 s.h.
235. History of American Drama.-3 s.h.

Professor Gohdes
[Not offered in 1950-51]
237. English Drama, 1642-1800.-3 s.h. Associate Professor Ward
[Not offered in 1950-51]
239. Shakespeare.-3 s.h.

Professor Gilbert
[Not offered in 1950-51]
241. Studies in Dryden.-3 s.h.
[Not offered in 1950-51]
247. Literature in Colonial America.-3 s.h.

Professor Leary
248. Literature in America, 1775-1820.-3 s.h.

Professor Leary
249-250. English Literature in the Sixteenth Century.-6 s.h.
[Not offered in 1950-51]
251-252. English Literature in the Seventeenth Century.
Assoctate Professor Ward
269-270. Southern Literature.-6 s.h.
Professor Hubbell
[269 will be offered in the spring semester]
FOR GRADUATES
303. Coleridge.-3 s.h.

Professor Brinkley
[Not offered in 1950-51]
304. Studies in the Metaphysical Poets.-3 s.h. Professor Brinkley
[Not offered in 1950-51]
349-350. Seminar Courses.-6 s.h.
(a) Sixteenth and Seventeenth Centuries.

Professor Gilbert and Associate Professor Ward
(b) Eighteenth Century.

Professor Irving
(c) Early Nineteenth Century.
(d) Later Nineteenth Century.

Professor Baum
(e) American Literature. Professors Hubbell, Gohdes and Leary
[In 1950-51 (a), (b), and (e) will be offered; and (d) (3 s.h.) in the spring semester.]

359-360. Research Courses.-3 or 6 s.h.

## RELATED COURSES IN OTHER DEPARTMENTS

The attention of students in English is directed to the following courses: German 201-202. Goethe.-6 s.h.
German 301-302. Gothic-Middle High German.-6 s.h.
Professor Vollmer
Greek 201-202. Greek Tragedy.-6 s.h. Assistant Professor Truesdale
History 207-208. Social and Cultural History of the United States. -6 s.h. Professor Robert
History 221-222. The Age of the Renaissance.- 6 s.h.
Associate Professor Nelson
History 337. Social and Economic Life of the Old South.-4 s.h.
[Not offered in 1950-51]
Professor Sydnor
Philosophy 201-202. The Philosophy of Art.-6 s.h. (e) Professor Gilbert
Philosophy 213-214. History of Aesthetics.-6 s.h. (E) Professor Gilbert Psychology 224. Psychology of Aesthetics.-3 s.h. Professor Lundholm Romance Languages 213, 214.-French Classicism.-6 s.h.

Professor Walton
Romance Languages 215-216.-The Modern French Novel.-6 s.h.
Professor Jordan
Romance Languages 219. Old French.-3 s.h. Professor Cowper
Romance Languages 232. Rousseau and the Beginnings of Romanticism.3 s.h.

Professor Cowper

## FORESTRY

PROFESSOR KORSTIAN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES-307 SOCIAL SCIENCE; PROFESSORS BEAL, COILE, HARRAR, KRAMER, SCHUMACHER, THOMSON, AND WOLF FOR SENIORS AND GRADUATES
224. Forest Pathology.-Prerequisites: Botany 1 and 2, and Forestry 253, or equivalents. 4 s.h.

Professor Wolf
231. Forest Entomology.-3 s.h.

Professor Beal
251. Sampling Methods in Forestry.-Prerequisite: Forestry S151. 3 s.h. Professor Schumacher
252. Forest Mensuration.-Prerequisite: Forestry 251. 2 s.h.

Professor Schumacher
253. Dendrology.-Prerequisite : one year of botany. 3 s.h.

Professor Harrar
257. Design of Forestry Experiments and Analysis of Data.-5 s.h. Professor Schumacher
259. Wood Anatomy.-Prerequisite: one year of botany. 3 s.h.

Professor Harrar
260. Properties of Wood.-Prerequisites: Forestry 259, one year of college chemistry; one course of college physics. 3 s.h. Professor Harrar
261. Forest Soils.-Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalent; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h.

Professor Coile
263. Silvics.-Desirable prerequisites: plant physiology, plant ecology, and Forestry 253 and 261, or equivalents. 3 s.h.
275. Forestry Policy.-2 s.h.

Professor Korstian
277. Economics of Forestry.--Prerequisite : at least one course in the principles of economics. 3 s.h.

Professor Thomson

## FOR GRADUATES

323-324. Advanced Forest Pathology.-Prerequisites: plant physiology and forest pathology. Credits to be arranged.

Professor Wolf
351-352. Advanced Physiology of Forest Trees.-Prerequisites: plant physiology and plant ecology or silvics. Credits to be arranged.

Professor Kramer
354. Forest Soil Fertility.-Prerequisites: Forestry 251 and 261, plant physiology, bacteriology and analytical chemistry. 3 s.h. Professor Coile
356. Comparative Forest Valuation.-Prerequisite : Forestry 277 or equivalent; courses in economic theory are desirable. 2 s.h. Professor Thomson 357-358. Research in Forestry.-Credits to be arranged.
a. Silvics.-Prerequisites: Forestry 253, 261, and 263, or equivalents.

Professor Korstian
b. Forest Soils.-Prerequisite: Forestry 261 or equivalent.

Professor Coile
d. Forest Management.-Prerequisite: Forestry 280 or equivalent.
e. Forest Economics.-Prerequisite: Forestry 277 or equivalent.

Professor Thomson
f. Properties of Wood.-Prerequisites: Forestry 259 and 260, or equivalents. Professor Harrar
g. Forest Mensuration.-Prerequisites: Forestry S151, 251, and 252, or equivalents. Professor Schumacher
h. Forest Entomology.-Prerequisite : Forestry 231 or equivalent.

Professor Beal

## GERMANIC LANGUAGES AND LITERATURE

PROFESSOR VOLLMER, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES- 106 SOCIAL SCIENCE; ASSOCIATE PROFESSOR SHEARS

201-201. Goethe.-6 s.h.
203-204. Eighteenth Century.-6 s.h. Professor Vollmer [Offered in 1950-51]
205-206. Middle High German.-6 s.h. Professor Vollmer
207-208. German Romanticism.-6 s.h.
Professor Vollmer
209-210. Kleist, Grillparzer, and Hebbel.-6 s.h.
211-212. Heinrich Heine.-6 s.h.
Professor Vollmer
213-214. Literature of the Empire, 1871-1914.-6 s.h.
[Offered in 1950-51]
Associate Professor Shears
FOR GRADUATES ONLY
301-302. Gothic-Middle High German.-6 s.h.
Professor Vollmer
303-304. German Seminar.-Credits to be arranged. Professor Vollmer

## RELATED COURSES IN OTHER DEPARTMENTS

The following courses in other departments are recommended to students who are majoring in Germanics, as particularly valuable in building a proper background for Germanic studies:
(a) Graduate courses in literature or philology, offered by the ancient and modern language departments, to be selected after consultation with the Germanic Department.
(b) Graduate courses in history and philosophy, offered by those departments, to be selected after consultation with the Germanic Department.

## HISTORY

PROFESSOR LAPRADE, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES-2B WEST DUKE BUILDINGG; PROFESSORS CARROLL, CLYDE, LANNING, MANCHESTER, ROBERT, AND SYDNOR; ASSOCIATE PROFESSORS CURTISS, HAMILTON, NELSON, ROBERT, ROPP, AND WOODY; ASSISTANT PROFESSOR PARKER

## AMERICAN HISTORY

FOR SENIORS AND GRADUATES
203-204. The United States, 1850-1900.-6 s.h.
Associate Professor Woody
207-208. Social and Cultural History of the United States.-6 s.h.
Professor Robert
209-210. Constitutional History of the United States, 1763-1860.-6 s.h. [Not offered in 1950-51]
215-216. Foreign Policy and Diplomacy of the United States.-6 s.h.
[Not offered in 1950-51]
Professor Clyde
230. The Portuguese Empire and the Rise of Brazil.- 3 s.h.

Professor Manchester
231. The Hispanic Colonies of the New World.-3 s.h.
[Not offered in 1950-51]
Professor Lanning
232. The Hispanic American Republics.-3 s.h. Professor Lanning [Not offered in 1950-51]
233. The Cultural and Institutional History of Colonial Hispanic Amer-ica.-3 s.h.

Professor Lanning
234. Political and Social Problems in the Hispanic American Republics.3 s.h.

Professor Lanning
263-264. American Colonial History and the Revolution, 1606-1783. 6 s.h.
[Not offered in 1950-51]
Associate Professor Woody
265-266. The Westward Movement in the United States.-6 s.h.
[Not offered in 1950-51]
FOR GRADUATES
315. Seminar in Southern History.-Year course. 2 s.h.

Professor Sydnor and Associate Professor Woody
321. Seminar in the History of Spain and the Spanish-American Colonies. - Year course. 2 s.h.

Professor Lanning
336. The South in Federal Politics, 1789-1860.-4 s.h. Professor Sydnor [Not offered in 1950-51]
337. Social and Economic Life of the Old South.-4 s.h.
[Not offered in 1950-51]
Professor Sydnor

## EUROPE AND THE FAR EAST

FOR SENIORS AND GRADUATES
217-218. Europe since 1870.-6 s.h.
Professor Carroll
219-220. The History of the European Proletariat.-6 s.h.
[Not offered in 1950-51]
Professor Carroll
221-222. The Age of the Renaissance.-6 s.h.
Associate Professor Nelson
225-226. The Age of the Reformation.-6 s.h.
[Not offered in 1950-51]
Associate Professor Nelson
227-228. The Napoleonic Empire and Its Aftermath. - 6 s.h.
[Not offered in 1950-51] Assistant Professor Parker
235. War in the Modern World.-3 s.h.

Associate Professor Ropp
241-242. Nationalism and Revolutionary Movements in the Far East since 1900.-6 s.h.

Professor Clyde
261-262. Russia in the Twentieth Century.-6 s.h.
Associate Professor Curtiss
FOR GRADUATES
305. Seminar in the History of England and the British Empire.- 2 s.h. Professor Laprade
317. Seminar in Recent European History.-2 s.h. Professor Carroll
325. British Nationality and Public Opinion.-4 s.h. Professor Laprade
327. Modern Phases of the English Constitution.-4 s.h.
[Not offered in 1950-51]
Professor Laprade
343. Seminar in the History of American Foreign Relations and the Far East.-2 s.h.

Professor Clyde
HISTORIOGRAPHY AND THE TEACHING OF HISTORY
FOR SENIORS AND GRADUATES
211. The Teaching of History and the Social Studies.-3 s.h.

Professor Manchester
FOR GRADUATES
312. Seminar in the Teaching of History in College.- 2 s.h.

Professor Manchester, Associate Professor Hamilton
320. Historiography.-4 s.h.

Associate Professor Nelson
329. Historiography of the South.-4 s.h. Associate Professor Woody [Not offered in 1950-51]

RELATED COURSES IN OTHER DEPARTMENTS
Economics 215. Economic Systems.—3 s.h. Professor Hoover
Economics 216. Economic Functions of the State.-3 s.h.
Professor Hoover
Economics 231. The Economic History of Europe.-3 s.h.
Professor Smith
Economics 311-312. History of Political Economy.-6 s.h.
Professor Spengler
Political Science 223. Political Thought to the Seventeenth Century.3 s.h.

Professor Wilson

Political Science 224. Modern Political Theory.-3 s.h.
Professors Wilson and Hallowell
Religion 309. History of the Ancient Near East.-3 s.h.
Professor Stinespring
Religion 395. Religious Thought in Colonial America.-3 s.h.
Professor Smith
Religion 396. American Religious Thought in the Nineteenth Century.3 s.h.

Professor Smith
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen

## MATHEMATICS

professor gergen, chairman- 220 pHysics building; professor roberts, director of graduate studies-219 physics building; professors CARLItZ, ELLIOTT, RANKin, AND THOMAS; ASSOCIATE PROFESSOR DRESSEL

FOR SENIORS AND GRADUATES
201. History of Mathematics.-Prerequisite: differential calculus. 3 s.h.

Professor Rankin
204. Teaching of Mathematics.-Must be preceded or accompanied by integral calculus. 3 s.h.

Professor Rankin
226. Galois Theory of Equations.-Prerequisite: calculus. 3 s.h.

Professor Thomas
227-228. Theory of Numbers.-Prerequisite: calculus. 6 s.h.
Professor Carlitz
229-230. Algebraic Numbers.-Prerequisite: theory of equations. 6 s.h.
Professor Carlitz
235-236. Abstract Algebra.-Prerequisite: calculus. 6 s.h.
Professor Carlitz
250. Higher Geometry.-3 s.h.

Professor Thomas
255-256. Projective Geometry.-Prerequisite: calculus. 6 s.h.
Professor Thomas
258. Finite Differences.-Prerequisite: calculus. 3 s.h.

Professor Carlitz
271-272. Introductory Topology.-Prerequisite: calculus. 6 s.h.
Professor Roberts
275. Probability.-Prerequisite: calculus. 3 s.h.

Associate Professor Dressel
285-286. Mathematical Analysis for Physicists.-Prerequisite: calculus.
6 s.h.
Associate Professor Dressel
291-292. Theory of Functions.-Prerequisite: calculus. 6 s.h.
Professor Gergen

## FOR GRADUATES

301-302. Algebraic Geometry.-Prerequisite : Mathematics 255-256. 6 s.h. Professor Thomas

325-326. Real Variable.-Prerequisite: Mathematics 291-292. 6 s.h.
Professor Gergen
331-332. Complex Variable.-Prerequisite: Mathematics 291-292. 6 s.h.

333-334. Analytic Theory of Numbers.-Prerequisite: Mathematics 291292. 6 s.h.

Professor Carlitz
337-338. Existence Theorems.-Prerequisite: Mathematics 291-292. 6 s.h. Professor Thomas
341-342. Integral Equations.-Prerequisite: differential equations and advanced calculus. 6 s.h. Professor Elliott

343-344. Ordinary Differential Equations.-Prerequisite : Mathematics 291292. 6 s.h. Professor Thomas

351-352. Differential Geometry.-Prerequisite: calculus. 6 s.h.
Professor Thomas
353-354. Trigonometric Series.-Prerequisite: Mathematics 325-326. 6 s.h. Professor Gergen
371-372. Dimension Theory.-Prerequisite: Mathematics 271-272. 6 s.h. Professor Roberts
373-374. Continuous Transformations.-Prerequisite : Mathematics 271-272. 6 s.h. Professor Roberts
382. Potential Theory.-Prerequisite: Mathematics $325-326.3$ s.h.

Professor Gergen

## PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN-3-I WEST DUKE bUILDING; PROFESSOR PATTERSON, director of graduate studies-3-I west duke building; professors
gilbert and widgery; associate professor mclarty;
assistant professor welsh
FOR SENIORS AND GRADUATES
201-202. The Philosophy of Art.-6 s.h.
Professor Gilibert
203. Contemporary Ethical Theories.-3 s.h.

Professor Negley
205. The Philosophy of History.-3 s.h.

Professor Widgery
208. Political Philosophy.-3 s.h. Professor Negley

209-210. The Philosophy of Religion.-6 s.h. Professor Widgery
211. History of Ancient Philosophy.-3 s.h.

Associate Professor McLarty
212. History of Modern Philosophy.-3 s.h. Professor Patterson

213-214. History of Aesthetics.-6 s.h. Professor Gilbert
217. The Philosophy of Aristotle.-Prerequisite: 93 or 211. 3 s.h.

Associate Professor McLarty
218. Mediaeval Philosophy.-3 s.h.
223. Contemporary Philosophy.-3 s.h.

Professor Patterson
Professor Patterson
225. Locke, Berkeley, Hume.-3 s.h.
231. Philosophy of Science.-3 s.h.
236. Oriental Philosophy I. Chinese Philosophy.-3 s.h.

Professor Widgery
238. Oriental Philosophy II. Indian Philosophy.-3 s.h.

Professor Widgery
242. Scientific Methodology.-3 s.h.

FOR GRADUATES
301a-302a, 301b-302b. Seminar in Philosophy.-3 s.h. Professor Widgery
307. Seminar: Kant.-3 s.h.

Professor Negley
308. Seminar: Hegel.-3 s.h.

331-332. Seminar in Special Fields of Philosophy.-3 s.h. each semester.
(a) Logic; (aa) Philosophy of Science.
(b) Ethics; (bb) Political Philosophy. Professor Negley
(c) Aesthetics.
(d) Philosophy of Religion; (dd) History. Professor Widgery
(e) and (ee) History of Philosophy. Professors Widgery and Patterson
341. Seminar: Problems of Political and Legal Philosophy.-3 s.h.

Professor Negley

## PHYSICS

professor nielsen, chairman-119 physics building; professor nordheim, DIRECTOR OF GRADUATE STUDIES-209 PHYSICS BUILDING; PROFESSORS

HATLEY, GORDY, NEWSON, AND SPONER; ASSOCIATE PROFESSOR SMITH; ASSISTANT PROFESSOR GREULING

201-202. Mechanics.-6 s.h. Associate Professor Smith 203-204. Electricity and Magnetism.-6 s.h. Associate Professor Smith 205. Spectroscopy.—4 s.h. Professor Sponer
207. Sound and Acoustics.-3 s.h. Professor Nielsen

213-214. Contemporary Physics.-6 s.h. Assistant Professor Greuling
217-218. Advanced Physics Laboratory.-2-6 s.h. The Staff
219. Introduction to Electronics.-4 s.h.

Professor Gordy or Associate Professor Smith
220. Electron Circuit Analysis.-3 s.h.

Professor Gordy or Associate Professor Smith
243. Elementary Nuclear Physics.-3 s.h. Professor Newson

FOR GRADUATES
303. Thermodynamics.-3 s.h.

Professor Sponer
305. Kinetic Theory of Matter.-3 s.h. Assistant Professor Greuling
307. Advanced Mechanics I.-3 s.h. Professor Nordheim
308. Advanced Mechanics II.-3 s.h. Professor Nordheim

315-316. Principles of Quantum Theory.-6 s.h. Professor Nordheim
318. Theory of Electricity and Magnetism.-3 s.h.

Assistant Professor Greuling
319. Electrodynamics. -3 s.h.
320. Theory of Electrons.-3 s.h.
323. Theory of Atomic Spectra.-3 s.h.
324. Theory of Molecular Spectra.-3 s.h.
331. Microwave Theory and Application.-4 s.h.

Assistant Professor Greuling
Assistant Professor Greuling
Professor Sponer
Professor Sponer
Professor Gordy
335. Microwave Spectroscopy.-3 s.h.

Professor Gordy
340. Structure of Matter.-3 s.h. Professor Sponer
341. Advanced Topics in Quantum Theory.--Prerequisite: Physics 315316. 3 s.h. Professor Nordheim
344. Advanced Nuclear Physics.-3 s.h.

Professor Newson
351-352. Seminar.-2 s.h.
Staff
353-354. Thesis Seminar.-6 s.h.
Staff

## POLITICAL SCIENCE

Professor rankin, chairman- 308 library; professor wilson, director of graduate studies- 405 library ; professors cole, connery, hallowell and von beckerath; associate professor van wagenen
for seniors and graduates
207. American Constitutional Law and Theory.-3 s.h.

Professors Wilson and Rankin
209. State and Local Government in the United States.-3 s.h.

Professor Rankin
211. Political Institutions of the Far East.-3 s.h.
[Not offered in 1950-51]
212. International Politics of the Far East.-3 s.h.
[Not offered in 1950-51]
221. International Public Organization.-3 s.h.

Associate Professor Van Wagenen
223. Political Thought to the Seventeenth Century.-3 s.h.

Professor Wilson
224. Modern Political Theory.-3 s.h.

Professors Hallowell and Wilson
225. Comparative Government.-3 s.h.

Professor Cole
226. Comparative Government.-3 s.h.

Professor Cole
227-228. International Law.-6 s.h.
Professor Wilson
229. Recent and Contemporary Political Theory.-3 s.h.

Professor Hallowell
230. American Political Institutions.-3 s.h.

Professor Rankin
231. American Political Theory.-3 s.h.
235. The British Commonwealth.-3 s.h.

Professor Hallowell
241. National Administration.-3 s.h.

Professor Cole
242. Administrative Management.-3 s.h.

Professor Connery
244. Administrative Law.-3 s.h.

Professor Connery
[Not offered in 1950-51]
Professor Connery
246. Government Administration and Public Policy.-3 s.h.

Professor Connery
247. Regulatory Administration.-3 s.h.

Professor Connery
[Not offered in 1950-51]
252. Spanish-American Constitutionalism.-3 s.h.
271. Sociopolitics and Capitalism.-3 s.h.

Professor von Beckerath
291. Municipal Government.-3 s.h.
292. Municipal Administration.-3 s.h.

FOR GRADUATES
310. Seminar in State Government.-3 s.h.
311. Seminar in Far Eastern Politics.-3 s.h.
[Not offered in 1950-51]
321. Seminar in Political Theory.—3 s.h. Professor Hallowell
325. Seminar in Comparative Government.-3 s.h.
328. Seminar in International Law.-3 s.h.
341. Seminar in Public Administration.-3 s.h.

Professor Rankin
Professor Rankin

Professor Rankin

Professor Cole
Professor Wilson Professor Connery

## RELATED COURSES IN OTHER DEPARTMENTS

Economics 215. Economic Systems.-3 s.h.
Professor Hoover
Economics 216. Economic Functions of the State. 3 s.h.
Professor Hoover
Economics 233. State and Local Finance.-3 s.h. Professor Ratchford
Economics 234. Federal Finance.-3 s.h.
Professor Ratchford
Economics 237-238. Statistical Methods.-6 s.h.
Associate Professor Hanna
Economics 265. International Trade and Finance.-3 s.h.
History 215-216. Foreign Policy and Diplomacy of the United States.6 s.h.

Professor Clyde
[Not offered in 1950-51]
History 217-218. Europe since 1870.-6 s.h. Professor Carroll
History 234. Political and Social Problems in the Hispanic American
Republics.-3 s.h.
Professor Lanning
History 261-262. Russia in the Twentieth Century.-6 s.h.
Associate Professor Curtiss
Philosophy 208. Political Philosophy.-3 s.h.
Professor Negley
Religion 224. Conceptions of Man in Western Thought.-3 s.h.
Professor Cushman
Religion 394. Christianity and the State.- 3 s.h.
Associate Professor Beach
Sociology 382. History of Sociological Theory.-3 s.h. Professor Jensen

## PSYCHOLOGY

PROFESSOR ADAMS, CHAIRMAN- 201 BIVINS HALL; PROFESSOR ZENER, DIRECTOR OF GRADUATE STUDIES-205 PSYCHOLOGICAL LABORATORY; PROFESSOR RODNICK, director of clinical training- 110 bivins hall ; professors dai, KUDER AND LUNDHOLM; ASSOCIATE PROFESSORS BANHAM AND KOCH; ASSISTANT PROFESSOR COHEN

FOR SENIORS AND GRADUATES
201-202. Proseminar.-9 s.h. each semester.
Associate Professor Koch; Professors Adams, Kuder, Rodnick, and Zener; Associate Professor Banham
203. Dynamic Psychology: Conation and Our Conscious Life.- 3 s.h.

Professor Lundholm
204. Motivation and Learning.-3 s.h.

Professor Zener and Associate Professor Koch [Not offered in 1950-51]
206. Social Psychology.-3 s.h. Professor Adams
207. Psychology of Memory, Thinking, Perceiving.-3 s.h.
[Not offered in 1950-51]
Professor Zener
209. Experimental Methods in Human Psychology.-4 s.h.

Professor Zener
212. Physiological Psychology.-Prerequisites: courses in Neuro-anatomy and in Physiology (M204 and M261, or Zoology 324, or their equivalents). 3 s.h.

Professor Zener
215. Developmental Psychology.-3 s.h.

Professor Adams
221-222. Propracticum. -3 s.h. each semester.
Associate Professor Banham and Clinical Staff
223. Abnormal Psychology.-3 s.h.

Professor Lundholm
[Offered in spring semester only]
224. Psychology of Aesthetics.-3 s.h. Professor Lundholm
226. Psychology: Historical and Theoretical.-3 s.h. Professor Zener [Not offered in 1950-51]
236. Theoretical Psychology.-3 s.h. Associate Professor Koch
265. Fundamental Statistical Procedures in Psychology.-3 s.h.

Professor Kuder
266. Advanced Statistics of Psychological Investigation.-Prerequisite: Psychology 265 or its equivalent. 3 s.h.

Professor Kuder

## FOR GRADUATES

302. Seminar.-3 s.h.

Professor Lundholm
303-304. Research.-2 or 3 s.h.
Professors Adams, Dai, Kuder, Lundholm, Rodnick, and Zener; Associate Professors Banham and Koch
305. Psychopathology.-3 s.h.

Professor Rodnick
306. Seminar in Child Psychology (Clinical).-2 or 3 s.h.

Professor Adams
309. Theory of Learning.-3 s.h. Professor Adams
310. Seminar: Selected Problems in the Dynamics of Behavior.-3 s.h.

Professor Zener
320. Seminar in the Theory of Mental Tests.-3 s.h. Professor Kuder
331. Interviewing Methods of Case Study.-3 s.h.
[Not offered in 1950-51]
Associate Professor Banham
335. Clinical Psychology Practicum.-Prerequisite: Psychology 221 and 222. 3 to 6 s.h. Assistant Professor Cohen; Professor Rodnick; Associate Professor Banham
336. Psychological Diagnosis.-Prerequisite: Psychology 335. 3 to 6 s.h. Assistant Professor Cohen; Professor Rodnick; Associate Professor Banham
341. Society, Culture and Behavior Disorders.-3 s.h.

Professor Dai
342. Principles of Psychotherapy.-3 s.h.

Professor Dai
371. Pre-school Behavior Problems.-Prerequisites: at least one course in child development, in mental measurement, and in abnormal psychology. 3 s.h.

Associate Professor Banham
[Offered in spring semester only]

## related courses in other departments

Education 208A. Mental Tests and Applications.-3 s.h.
Associate Professor Easley
Education 208B. Practicum.-2 s.h. Associate Professor Easley
Education 209. Statistical Methods Applied to Education.-3 s.h.
Associate Professor Stumpf
Education 217. The Psychological Principles of Education.-3 s.h.
Associate Professor Easley
Education 227. The Psychology of Learning: Problems.-3 s.h.
Associate Professor Easley
Education 228. The Psychology of Learning: Theoretical and Experi-mental.-3 s.h. Associate Professor Easley

Education 258. Educational Measurements.-First semester. 3 s.h.
[Not offered in 1950-51]
Education 318. Educational Implications of Genetic Psychology.-3 s.h.
Philosophy 203. Contemporary Ethical Theories.-3 s.h.
Professor Negley
Philosophy 208. Political Philosophy.-3 s.h. Professor Negley
Philosophy 223. Contemporary Philosophy.-3 s.h. Professor Patterson
Philosophy 225. Locke, Berkeley, and Hume.-3 s.h.
Assistant Professor Welsh
Philosophy 231. Philosophy of Science.-3 s.h.
Philosophy 242. Scientific Methodology.-3 s.h.
Philosophy 331-332a. Logic.-3 s.h.
Professor Negley
Sociology 211. Peoples of the World.-3 s.h.
Associate Professor LaBarre
Sociology 212. Primitive Religion.-3 s.h.
Associate Professor LaBarre
Sociology 238. Race and Culture.-3 s.h.
Professor Thompson
[Offered in Summer Session, 1950. Not offered in 1950-51.]
Sociology 243. Social Attitudes and Collective Behavior.-3 s.h.
Associate Professor Schettler
Sociology 246. Public Opinion and Propaganda.-3 s.h.
Associate Professor Schettler
Sociology 249. Child Welfare.-3 s.h.
Professor Jensen
[Offered in Summer Session, 1950]
Sociology 271. Social Pathology.-3 s.h.
Professor Jensen
Sociology 276. Criminology.-3 s.h.
Professor Jensen
Sociology 330. Seminar in Anthropology.-1 to 3 s.h. each semester.
Associate Professor LaBarre
Sociology 380. Seminar in Applied Sociology.-1 to 3 s.h. each semester.
Professor Jensen

Zoology 229. Endocrinology.-4 s.h.
Zoology 324. Advanced Physiology.-4 s.h. Professor Wilbur
Zoology 341. Historical Zoology.-2 s.h.
Professor Hargitt
Staff
Zoology 351-352. Zoological Journal Club.-2 s.h.
Staff
Zoology 355-356. Seminar.-2 s.h.
Physiology 261-262. Human Physiology.-8 s.h.
Anatomy 204. Neuroanatomical Basis of Behavior.-3 s.h.
Dr. Hetherington

## RELIGION

PROFESSOR SMITH, DIRECTOR OF GRADUATE STUDIES- 302 divinity SCHOOL; professors clark, cushman, petry, spence, and stinespring; associate professor beach; assistant professors

BROWNLEE AND YOUNG
FIELD I. BIBLICAL STUDIES
201-202. First Hebrew.-6 s.h. Professor Stinespring
205-206. Arabic.-6 s.h. Professor Stinespring
[Not offered in 1950-51]
207-208. Second Hebrew.-6 s.h. Assistant Professor Brownlee
217. The New Testament in Greek.-3 s.h. Professor Clark
218. Galatians and I Corinthians.-3 s.h. Professor Clark
220. I Peter and the Gospel of John.-3 s.h.
301. The Religious Thought of Post-Exilic Judaism.-3 s.h.

Assistant Professor Young
304. Aramaic.-3 s.h.

Professor Stinespring
Professor Stinespring
305. Third Hebrew.-3 s.h.
[Not offered in 1950-51]
307. Syriac.-Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h. [Not offered in 1950-51]

Professor Stinespring
309 History of the Ancient Near East.-3 s.h. Professor Stinespring
310. Old Testament Prophecy.-3 s.h.

Professor Stinespring
311. The Life and Teachings of Jesus.-Prerequisite: New Testament 213-214. 3 s.h. Professor Clark
312. New Testament Theology.-3 s.h.
313. The Apostolic Fathers.-3 s.h.

Assistant Professor Young
Professor Clark
314. Patristic Thought.-Prerequisite: New Testament 213-214. 3 s.h.

Assistant Professor Young
316. Hellenistic Religions at the Beginning of the Christian Era.-3 s.h. Professor Clark
317. The Synoptic Gospels.-Prerequisite: a basic "Introduction" to the New Testament. 3 s.h. Professor Clark
318. Text of New Testament.-3 s.h.

Professor Clark
related courses in other departments
Greek 257. Social and Cultural History of the Hellenistic World from Alexander to Augustus.-3 s.h.

Professor Rogers

Latin 258. Social and Cultural History of the Graeco-Roman World. 3 s.h.

Professor Rogers
Aesthetics, Art, and Music 215. Religious Art of the Ancient Near East.3 s.h. Assistant Professor Markman

Aesthetics, Art, and Music 216. Religious Art of the Classical World.3 s.h.

Assistant Professor Markman
FIELD II. STUDIES IN CHURCH HISTORY
330. The Church in Europe since 1800.-3 s.h.

Professor Petry
331. The Social Message of the Early and Medieval Church.-3 s.h.

Professor Petry
332. The Medieval Church.-3 s.h.

Professor Petry
[Not offered in 1950-51]
334. Church Reformers and Christian Unity.-3 s.h.

Professor Petry [Not offered in 1950-51]
336. History of Christian Renunciation in the Middle Ages. -3 s.h.

Professor Petry
365. History of Religious Education in Modern Times.-3 s.h.

Professor Spence

## RELATED COURSES IN OTHER DEPARTMENTS

History 221-222. The Age of the Renaissance.- 6 s.h.
Associate Professor Nelson
History 225-226. The Age of the Reformation.-6 s.h.
Associate Professor Nelson

## FIELD III. STUDIES IN CHRISTIAN THOUGHT

224. Conceptions of Man in Western Thought.-Prerequisite: 3 s.h. in Christian Doctrine or 6 s.h. in Philosophy. 3 s.h. Professor Cushman [Not offered in 1950-51]
225. Platonism and Christianity.-Prerequisite : 6 s.h. in philosophy or its equivalent. 3 s.h.

Professor Cushman
322. Theology and Philosophy in the Nineteenth Century.-3 s.h.
[Not offered in 1950-51]
Professor Cushman
325. Philosophical Theology I.-3 s.h.

Professor Cushman
326. Philosophical Theology II.-3 s.h. Professor Cushman
328. Seminar in 20th Century Continental and British Theology.-3 s.h.

Professor Cushman
329 Seminar in Historical Theology.-2 s.h.
368. Theories of Religious Education.-3 s.h.

Professor Spence
391-392. Historical Types of Christian Ethics.-6 s.h.
Associate Professor Beach
394. Christianity and the State.-3 s.h. Associate Professor Beach
395. Religious Thought in Colonial America.-3 s.h. Professor Smith
396. American Religious Thought in the Nineteenth Century.-3 s.h.

Professor Smith
397. Current American Theology.-3 s.h.

Professor Smith
398. Modern American Christology.-3 s.h.

Professor Smith
495. Seminar: Jonathan Edwards and John Wesley.-2 s.h.

Professor Smith
496. Seminar: William James and John Dewey.-2 s.h.

Professor Smith

## RELATED COURSES IN OTHER DEPARTMENTS

Political Science 229. Recent and Contemporary Political Theory.-3 s.h.
Professor Hallowell
Political Science 231. American Political Theory.-3 s.h.
Professor Hallowell

## ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES-214 CARR; PROFESSORS COWPER AND WALTON; ASSOCIATE PROFESSORS CASTELLANO AND DAVIS

## FRENCH

FOR SENIORS AND GRADUATES
213. French Classicism.-3 s.h.

Professor Walton
214. French Classicism.-3 s.h.

Professor Walton
215-216. The Modern French Novel.-6 s.h. Professor Jordan
219. Old French.-3 s.h.

Professor Cowper
220. Old French.-3 s.h. Professor Cowper
227. French Poetry since Théophile Gautier.—3 s.h. Professor Walton
232. Rousseau and the Beginnings of Romanticism.-3 s.h.

Professor Cowper
238. Anatole France.-3 s.h.

Professor Walton FOR GRADUATES
317. History of the French Language.-3 s.h. Professor Cowper 323-324. Realism and Naturalism.-6 s.h. Professor Jordan
325-326. French Literature in the Sixteenth Century.-6 s.h.
Professor Walton
331. Diderot and the Encyclopédie.-3 s.h. Professor Cowper

333-334. Contemporary French Literature.-6 s.h. Professor Jordan
350. Nineteenth-Century French Criticism.-3 s.h. Professor Jordan

SPANISH
FOR SENIORS AND GRADUATES
257-258. Old Spanish Language and Literature.-6 s.h.
Associate Professor Davis
260. Advanced Composition and Syntax.-Prerequisite: Spanish 173-174
or permission. 3 s.h. Associate Professor Castellano
261-262. Modern Spanish Novel.-6 s.h. Associate Professor Davis
264. Modern and Contemporary Spanish Theater.-3 s.h.

Associate Professor Castellano
265. Golden Age Literature: Cervantes.-3 s.h.

Associate Professor Castellano
266. Golden Age Literature: The Drama.-3 s.h.

Associate Professor Castellano

## SOCIOLOGY AND ANTHROPOLOGY

professor jensen, chairman- 215 e social science building; professor hart, director of graduate studies-215d social science building; professor THOMPSON; ASSOCIATE PROFESSORS LABARRE AND SCHETTLER

## ANTHROPOLOGY

211. Peoples of the World.-Prerequisite: course 91-92, 101, 111 or 112. 3 s.h.

Associate Professor LaBarre
212. Primitive Religion.-Prerequisite : course $91-92,101,111$ or 112.3 s.h. Associate Professor LaBarre
213. Culture and Personality.-3 s.h. Associate Professor LaBarre (Admission only by consultation with the instructor.)
214. Society and Personality.-Prerequisite : course 213. 3 s.h.

Associate Professor LaBarre
330. Seminar in Anthropology.-1 to 3 s.h. Associate Professor LaBarre community, race and culture
(Either 91-92, 101, 111 or 112 prerequisite for all courses.)
233. Rural Sociology.-3 s.h.
235. Urban Sociology.-3 s.h.
237. Community and Society.-3 s.h.
238. Race and Culture.-3 s.h.
340. Seminar.-3 s.h.

Professor Thompson
Professor Thompson
Professor Thompson
Professor Thompson
Professor Thompson

## COLLECTIVE BEHAVIOR

243. Social Attitudes and Collective Behavior.-Prerequisite: course 91-92, 101, or 111 or 112 . 3 s.h.

Associate Professor Schettler
246. Public Opinion and Propaganda.-Prerequisite: course 91-92, 101, or 111 or 112.3 s.h.

Associate Professor Schettler
249. Child Welfare.-Prerequisite : course $91-92,101,111$ or 112. 3 s.h. Professor Jensen
250. Marriage and the Family.-Prerequisite: course 91-92, 101, 111 or 112. 3 s.h. Professor Hart

SOCIAL ORGANIZATION AND DISORGANIZATION
271. Social Pathology.-Prerequisite : course $91-92,101,111$ or 112. 3 s.h. Professor Jensen
273. Special Problems in Social Pathology.-1 to 3 s.h.

Professor Jensen
276. Criminology.-Prerequisite: course 91-92, 101, 111 or 112. 3 s.h. Professor Jensen
377. Seminar in Medical Sociology.-2 s.h.
[Not offered in 1950-51]
378. Seminar in Family Law.-2 s.h.
380. Seminar in Applied Sociology.-1 to 3 s.h.

Professor Bradway
Professor Jensen

## SOCIAL THEORY

285. Social Ethics.-Prerequisite : course 91-92, 101, or 111 or 112. 3 s.h. Professor Hart
286. Contemporary Problems in Cultural Lag.-Prerequisite: course 9192,101 , or 111 or 112.3 s.h. Professor Hart
287. Principles of Sociology.-3 s.h.

Professor Jensen
382. History of Sociological Theory.-3 s.h.

Professor Jensen
METHODS OF SOCIAL RESEARCH
291. Statistical Methods in Sociology.-Prerequisite: course 91-92, 101, or 111 or 112. 3 s.h.

Professor Hart
293-294. Special Problems in Social Statistics.-1 to 3 s.h.
Professor Hart
391. Seminar in Social Statistics.-1 to 3 s.h. Professor Hart
393. Operational Sociology.-Prerequisite : one of the following: Sociology 291 or Economics 237-238, or Education 209, or Mathematics 124, or some other acceptable course in statistics. 3 s.h.

Professor Hart
396. Methods of Social Research.-3 s.h.

Professor Jensen
399. Departmental Seminar.-1 s.h.

Professors Jensen, Hart, and Thompson; Associate
Professors Schettler and LaBarre
RELATED COURSES IN OTHER DEPARTMENTS
Economics 215. Economic Systems.-3 s.h. Professor Hoover
Economics 216. Economic Functions of the State.-3 s.h.
Professor Hoover
Economics 217. Population Problems and Resources.-3 s.h.
Professor Spencler
Philosophy 205. Philosophy of History.-3 s.h. Professor Widgery
Political Science 223. Political Thought to the Seventeenth Century.3 s.h.

Professor Wilson
Political Science 224. Modern Political Theory.-3 s.h.
Professors Wilson and Hallowell
Psychology 206. Social Psychology.—3 s.h.
Professor Adams

## ZOOLOGY

professor gray, chairman- 218 biology building; professor wilbur, director of graduate studies- 328 biology building; professor emeritus pearse; PROFESSOR HARGITT; ASSOCIATE PROFESSORS BOOKHOUT, HUNTER, johnson, and wharton ; assistant professor horn

FOR SENIORS AND GRADUATES
202. Helminthology.-Prerequisite: Zoology 161. 4 s.h.

Associate Professor Hunter
204. Advanced Parasitology.-Prerequisite: Zoology 161. 4 s.h.

Associate Professor Wharton
222. Entomology.-Prerequisite: one year of zoology. 4 s.h.

Professor Gray
224. Vertebrate Zoology.-Prerequisite: Zoology 53. 4 s.h.

Professor Gray
229. Endocrinology.-Prerequisites: Zoology 53, 92, and 171. 4 s.h.
238. Systematic Zoology.-Prerequisites: Zoology 1 and 2. 4 s.h.

Associate Professor Wharton
253. Advanced Vertebrate Morphology.-Prerequisites: Zoology 53, 92. 4 s.h.

Assistant Professor Horn
271. General Physiology.-Prerequisites: two years of biology and at least one year of chemistry. 4 s.h.

Professor Wilbur
274. Invertebrate Zoology.-Prerequisites: Zoology 1 and 2. 4 s.h.

Associate Professor Bookhout
276. Protozoology.-Prerequisites: Zoology 1 and 2. 4 s.h.

Associate Professor Bookhout
278. Invertebrate Embryology.-Prerequisite: Zoology 92. 4 s.h.

Associate Professor Book hout

FOR GRADUATES
303. Ecology.-4 s.h.

Professor Gray
306. Advanced Ecology.-Prerequisite: Zoology 303. 4 s.h.
307. Foundations of Zoology.-2 s.h.
324. Advanced Physiology.-Prerequisite: Zoology 271. 4 s.h.

Professor Wilbur
328. Experimental Embryology.-Prerequisites: Zoology 53, 92, 156, 271, or equivalents. 4 s.h.

Associate Professor Johnson
341. Historical Zoology.-2 s.h.

Professor Hargitt
343. Cytology.-Prerequisites: Zoology 53, 92, 156, or equivalent. 4 s.h.

Professor Hargitt
351-352. Zoological Journal Club.-2 s.h.
Stafy
353-354. Research.
(a) Embryology. Associate Professor Johnson
(b) Physiology. Professor Wilbur
(c) Histology, Cytology. Professor Hargitt
(d) Invertebrate Zoology, Histology, Cytology.

Associate Professor Bookhout
(e) Ecology.

Professor Gray
(f) Entomology, Vertebrate Zoology.

Professor Gray
(g) Vertebrate Morphology and Morphogenesis.

Assistant Professor Horn
(h) Parasitology.

Associate Professor Hunter
(i) Parasitology.

Associate Professor Wharton
355-356. Seminar.-2 8.h.

# COURSES IN THE MEDICAL SCHOOL OPEN TO GRADUATE STUDENTS 

PROFESSORS BEARD, F. BERNHEIM, CONANT, EADIE, HALL, HANDLER, HETHERINGTON, MARKEE, NEURATH, AND D. T. SMITH; ASSOCIATE PROFESSORS EVERETT, MCCREA, PEELE, SAWYER, AND TAYLOR; ASSISTANT PROFESSORS M. L. C. BERNHEIM, DUKE, SCHWERT, AND RUNDLES

ANATOMY
M201. Gross Human Anatomy.-Prerequisite: adequate training in comparative anatomy and embryology.

Dr. Markee and Staff
M202. Microscopic Anatomy.-Prerequisite: adequate training in histology or cytology.

Dr. Markee and Staff
M203. Anatomy of the Nervous System.-Prerequisite: Anatomy M201. Dr. Markee and Staff

M204. Neuroanatomical Basis of Behavior.-3 s.h. Dr. Hetherington MICROBIOLOGY

M221. Bacteriology and Immunology.-Prerequisites: courses in general zoology, general botany, histology and comparative anatomy, general and organic chemistry. 6 s.h.

Dr. D. T. Smith and Staff
M322. Immunochemistry.-2 s.h.
M323. Advanced Bacteriology and Immunology.-Prerequisites: Bacteriology and Immunology M221. 8 s.h. Dr. D. T. Smith and Staff

M324. Research Seminar on Viruses.-2 s.h. per semester. Dr. Beard
M325. Medical Mycology.-Prerequisites: A.M. in Botany with Major in Mycology and M221. Course limited to four students each year. 8 s.h. Dr. Conant

## BIOCHEMISTRY AND NUTRITION

M241. General Biochemistry and Nutrition.-Prerequisites : general chemistry, organic chemistry, physical and analytical chemistry, and at least one year of college biology. Feb.-June. 8 s.h.; without laboratory work 3 s.h. Drs. Taylor, Neurath, Handler, M. L. C. Bernheim and Sch wert

M242. Biochemical Preparations.-Prerequisite: Biochemistry 241 or its equivalent. Hours by arrangement. 2, 3, or 4 s.h.

Drs. Handler, Neurath, and Schwert
M341. Theories and Methods of Physical Biochemistry.-2 s.h.
Drs. Neurath and Schwert
M343-344. Biochemistry of Proteins and Enzymes.-4 s.h.
Drs. Neurath and Schwert
M345-346.-2 s.h. Drs. Neurath, Taylor, Handler, Schwert, and M. L. C. Bernheim
M347-348. Biochemical Research.-Prerequisite: Biochemistry M241 or its equivalent. 2, 3, or 4 s.h. Drs. Taylor, Neurath, Handler, Schwert, and M. L. C. Bernheim
M349-350. Intermediary Metabolism.-Prerequisite: Biochemistry M241 or its equivalent. 4 s.h.

Dr. Handler

M351-352. Nutrition.-Prerequisite: Biochemistry M241 or its equivalent. Given alternately with Biochemistry M349-350. 4 s.h.

Dr. Handlek

## HEMATOLOGY

M211.-Prerequisites: courses in general zoology, general botany, histology and comparative anatomy. 4 s.h.

## PHYSIOLOGY AND PHARMACOLOGY

M261-262. Human Physiology.-Prerequisites: Anatomy M201 and Biochemistry M241 (or equivalents) and at least one year of college physics. Feb.-June. Credits depending on work taken. (Maximum 8 s.h.)

M365. Respiration and Aero-Physiology.-Prerequisites: M261-2 or equivalent. 4 s.h. Dr. Hall
M367. Physiology of the Nervous Systems.-Prerequisites: M261-2 or equivalent. 2 s.h.

Dr. Eadie
M369. Pharmacology. Mode of Action of Drugs.-Prerequisites: M261-2 or equivalent. 4 s.h.

Dr. F. Bernheim
M370. Seminar.-2 s.h. Dr. Eadie, Dr. Hall and Staff
M372. Research.-Credits to be arranged.
Staff
MEDICAL PARASITOLOGY
M291. Medical Parasitology.-Prerequisites : courses in Zoology 204, general botany, histology and comparative anatomy. 1 s.h.

## THE DIVINITY SCHOOL

Fall Semester, 1950, begins September 26;
Spring Semester, 1951, begins January 31.

> 1949-1950
> ANNOUNCEMENTS FOR 1950-1951

# THE DIVINITY SCHOOL OF DUKE UNIVERSITY 

## GENERAL INFORMATION <br> HISTORICAL STATEMENT

The Indenture of Trust signed on December 11, 1924, by Mr. James B. Duke, which established Duke University, mentioned first among its objects the training of ministers of the Gospel. The Divinity School was, accordingly, the first of the graduate professional schools to be organized. Its work began with the year 1926-27, the formal opening exercises being held on November 9, 1926.

The Reverend Doctor Edmund Davison Soper was the first dean of the Divinity School. He was succeeded in 1928 by the Reverend Doctor Elbert Russell, and the latter in turn in 1941 by the Reverend Doctor Paul Neff Garber. In 1944, Dean Garber was elected to the episcopacy of the Methodist Church, and Doctor Harvie Branscomb assumed the duties of the dean's office. In 1946, Dean Branscomb became Chancellor of Vanderbilt University, and in 1947 the Reverend Doctor Paul E. Root was elected dean but died before he could assume the office. The Reverend Doctor Harold A. Bosley became dean in 1947 and resigned in 1950 to become the pastor of the First Methodist Church, Evanston, Illinois.

## THE PURPOSE OF THE DIVINITY SCHOOL

The primary purpose of the Divinity School is to provide training for individuals planning to enter the Christian ministry. This includes not only prospective ministers in local churches, but also those preparing themselves to be missionaries at home and abroad, directors of religious education, teachers of religion, and social workers. Vital to all of these forms of service is a full understanding of the beginnings, content, and history of the Christian faith and its special pertinence for the spiritual needs of the modern world. Studies of a broad and thorough character directed toward such an understanding constitute the center of the curriculum of the Divinity School and are regarded as the basic training for all prospective Christian workers. Specific training in the skills required of local ministers and of leaders in the work of religious education are also provided. As funds become available for the purpose and as needs appear, additional training in specialized skills and areas of knowledge will be added to the curriculum.

Though bound by ties of history and obligations to the Methodist Church, the Divinity School is multi-denominational in its interests and ecumenical in its outlook. Its faculty is limited to no one denomination, but draws upon the resources of them all. Students of the several denominations are admitted on the same basis. The Divinity School conceives its task to be one of broad service to the Church of Christ in all of its forms.

## THE RELATION OF THE DIVINITY SCHOOL TO DUKE UNIVERSITY

The Divinity School is an integral unit of the University and shares fully in its activities, privileges and responsibilities. The Sunday services in the University Chapel give the Divinity School students an opportunity to hear each year a number of the leading preachers of the country. The University Libraries make easily accessible a rich collection of approximately a million volumes. Selected courses in the Graduate School of Arts and Sciences and in the professional schools are open to Divinity School students without payment of additional fees. The general cultural and recreational resources of the University are available to them on the same basis as other students.

## LIBRARY RESOURCES

The Divinity School has its own library containing over forty-nine thousand volumes. It is rich in complete files of the more important religious journals and periodicals, in source materials, particularly for the study of American church history, missions and the history of religion, and in facsimiles of the more important manuscripts of the New Testament. Among the most treasured possessions of the Library are eleven Greek New Testament manuscripts, of which one is a magnificent manuscript of the thirteenth or fourteenth century containing the entire text of the New Testament.

The general Library of the University is connected by a corridor with the Divinity School Building. It contains over eight hundred thousand volumes and receives the current issues of several thousand periodicals. The general Library contains also a catalogue of the library of the University of North Carolina located at Chapel Hill, twelve miles away, and a system of exchange operates between the two libraries so that books may be secured from that library also within a few hours.

The Henry Harrison Jordan Loan Library was endowed in 1947 by the children of the late Reverend Henry Harrison Jordan for the purpose of providing ministers in the field with the best of current religious literature. This collection was an outgrowth of the Duke Divinity School Loan Library established in 1944.

## PUBLIC LECTURES

The Divinity School presents several public lectures annually. The lectures for 1949-50 were: Professor William Foxwell Albright of Johns Hopkins University, "Prophecy and History in Israel"; Reverend Alan Richardson, Canon of Durham Cathedral, "The Conception of Revelation in Our Modern Theology"; Professor George Florovsky of Saint Vladimir's Theological Seminary, "The Eastern Tradition in Christianity"; Dean Walter George Muelder of Boston Theological Seminary, "The Sources of Industrial Peace."

THE DIVINITY SCHOOL LIBRARY LECTURES
In 1948 the Duke Divinity School Library Lectures were established by The Reverend George Brinkmann Ehlhardt for the purpose of bringing to the campus a succession of the greatest religious leaders of the
day. In 1950 this lecture was given by the Reverend Doctor John Cecil Trever, Director of the Department of the English Bible, The International Council on Religious Education. The lecture, entitled "From Ancient Scroll to Modern Bible," was given in conjunction with the exhibition of three ancient Hebrew scrolls lent by His Eminence, Mar Athanasius Yeshue Samuel, Metropolitan and Archbishop of Jerusalem and Trans-Jordan.

## THE CHRISTIAN CONVOCATION

The Christian Convocation of 1950 will be held on the Duke campus from June 6-9. The Convocation, under the joint sponsorship of the Duke Divinity School, The North Carolina Pastors' School, The North Carolina Rural Church Institute, and The North Carolina Council of Churches, will bring to the campus an outstanding group of religious leaders as lecturers and teachers.

## ENDOWED SCHOLARSHIP FUNDS

Certain special scholarship funds have been established, the income of which is available for students wishing to secure training in preparation for the Christian ministry.

These scholarships are all awarded on the basis of service performed in a local church, thus providing for the student experience as well as financial aid.

## N. Edward Edgerton Fund

In 1939 Mr. N. Edward Edgerton of Raleigh, North Carolina, an alumnus of Duke University of the Class of 1921, a member of the Board of Trustees of the University and a member of the Committee on the Divinity School, established the N. Edward Edgerton Fund. The award is limited to students who are candidates for the B.D. degree.

## P. Huber Hanes Scholarship

Mr. P. Huber Hanes of Winston-Salem, North Carolina, an alumnus of Duke University of the Class of 1900 and a member of the Board of Trustees, has established an annual scholarship yielding the sum of $\$ 400.00$.

## Elbert Russell Scholarship

In 1942 the Alumni Association of the Divinity School established a scholarship fund in honor of Elbert Russell, Dean Emeritus of the Divinity School and for a number of years Professor of Biblical Theology.

## W. R. Odell Scholarship

In 1946 the Forest Hills Methodist Church, Concord, North Carolina, established a scholarship fund in memory of W. R. Odell, for many years a member of the Board of 「rustees of the University.

## Hersey E. Spence Scholarship

In 1948 the Steele Street Methodist Church of Sanford, North Carolina, established a scholarship fund in honor of Professor Hersey E. Spence, a former pastor of the congregation.

## Jesse M. Ormond Scholarship Fund

In 1949 the North Carolina Conference established a scholarship fund in honor of Professor Jesse M. Ormond, who for many years was Director of Field Work in the Duke Divinity School and Professor of Practical Theology.

## Duke Endowment Scholarships

There are available for students preparing for the Methodist ministry approximately sixty work scholarships provided by the Duke Endowment for aiding rural Methodist churches in North Carolina. Terms of these scholarships are given on page 14 of this catalogue.

## ANNUAL SCHOLARSHIPS

In addition to the endowed scholarships and those provided by the Duke Endowment, the Divinity School receives annual scholarship funds from the following churches and individuals: The Edenton Street Methodist Church, Raleigh, N. C.; West Market Methodist Church, Greensboro, N. C.; Myers Park Methodist Church, Charlotte, N. C.; Christ Methodist Church, Charleston, W. Va.; Mr. J. C. Cowan, Jr., Greensboro, N. C. These scholarships are awarded on the same basis as the endowed scholarships.

## THE METHODIST COLLEGE ADVANCE

The Divinity School was a participant in the North Carolina Methodist College Advance with askings of $\$ 200,000.00$ for scholarship aid and extension of the School's service to ministers. Many local churches and individuals have shared in the raising of this significant sum. Specific contributions are the Henry Harrison Jordan Loan Library and the James A. Gray Fund.

## THE JAMES A. GRAY FUND

In 1947 Mr. James A. Gray of Winston-Salem, North Carolina, presented the fund which bears his name to the Divinity School for use in expanding and maintaining its educational services in behalf of North Carolina churches and pastors. From this fund four scholarships are awarded, two in city church work, and two in rural church work. The Divinity School Seminars are also supported by income from this gift. In 1950 the James A. Gray Lectures were established and the first series was given by Dr. Ralph W. Sockman, pastor of Christ Church (Methodist) of New York, during The Christian Convocation.

## COURSES OF STUDY OFFERED BY THE DIVINITY SCHOOL

The Divinity School offers at present two courses of study. The basic course is that which leads to the degree of Bachelor of Divinity. This is a three-year course and is recommended to all those preparing themselves for the work of the regular pastoral ministry.

Beginning with the year 1944-45 the Divinity School offered also a course of study leading to the degree of Master of Religious Education. This course is designed for individuals who wish to become directors or to take other specialized positions in the work of religious education.

The course does not provide a general preparation for the work of the regular ministry and cannot serve as a substitute for it. No exchange of credits between the two courses is permitted, nor can departmental courses taken be credited toward more than one degree. Only a limited number of candidates for the Master of Religious Education degree will be accepted annually.

## COURSES OF STUDY IN RELIGION OFFERED BY THE GRADUATE SCHOOL OF ARTS AND SCIENCES

Students who desire to pursue work in religion beyond that for the Bachelor of Divinity degree should register in the Graduate School of Arts and Sciences, through which the degrees of Master of Arts and Doctor of Philosophy may be obtained. This advanced work is administered through the Department of Religion of the Graduate School and is available to qualified persons of all denominations on an equal basis. Study and research may be pursued in three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. A list of courses approved by the Graduate Council for work in these fields, together with general requirements for admission to the Graduate School, may be found in the Bulletin of the Graduate School. This Bulletin is available on application to Dean Paul Gross, the Graduate School of Arts and Sciences, Duke University.

A limited number of University Scholarships and Fellowships, among which are two Gurney Harriss Kearns Fellowships of $\$ 1,000$ each, may be obtained by exceptionally qualified students. Applications for these must be submitted to Dean Gross on University form blanks not later than March 15 of each year.

Inquiries concerning specific requirements of the Department of Religion in the Graduate School should be addressed to Professor H. Shelton Smith, Director of Graduate Studies in Religion.

## FACILITIES FOR ADVANCED STUDY IN THE AMERICAN SCHOOLS OF ORIENTAL RESEARCH

The Divinity School of Duke University is one of the supporting members of the American Schools of Oriental Research. Accordingly, students in the Divinity School have the privilege of attending the American School in Jerusalem or the one in Bagdad without charge for tuition. They may also compete for the financial aids which are offered annually by the Schools. These consist of four fellowships, the stipends depending upon available funds.

# COST, RESIDENTIAL ARRANGEMENT, AND STUDENT AID 

## FEES AND COSTS

The University tuition charge is $\$ 175$ per semester. Scholarships covering this amount are granted to all Divinity School students. Other charges are as follows:

## Fees per semester:

General Fee......................................................................... . $\$ 50.00$
Approximate cost of meals per semester ..................................... 175.00
Room per semester (double room)........................................... . . . 62.50
Total per semester. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 287.50$
The "General Fee" is in lieu of all special charges, and includes the following Fees: Matriculation, Medical, Library, Damage, Commencement and Diploma. Students may secure admission to all athletic contests held on the University grounds by payment of the Athletic Fee of $\$ 5.00$ per semester, plus any Federal taxes that may be imposed.

## LATE REGISTRATION

Students matriculating in either semester at a date later than that prescribed in the catalogue shall pay to the Treasurer of the University a penalty of $\$ 5.00$.

## DINING HALL

The dining halls in the University Union have accommodations for all resident Divinity School students. Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room where full meals and a la carte items are served.

## LIVING QUARTERS

Divinity School students are housed in the University dormitories along with other graduate and professional students. Application for room assignments should be addressed to the Housing Bureau, Duke Station, Durham, N. C.

The University has no apartments for married students. Students desiring such quarters should plan to arrive in Durham as early as possible before the opening of the fall semester in order to make their living arrangements. While the Divinity School Office will assist wherever it can in these matters, it cannot assume responsibility for making such arrangements.

## STUDENT AID

Duke University remits its regular tuition charges to all students enrolled in the Divinity School. Scholarship aid, over and above this, is
available only in the form of work scholarships. The funds for these scholarships come from the sources described on pages $9-10$ of this catalogue. Those appointed to these scholarships agree to give ten weeks' service during the summer months to a church to which they are assigned. In return they receive their board and room for the period of their summer service and $\$ 600$. This latter sum is made available during the academic year preceding the summer work if desired. By special arrangement a student may be assigned to a church for five weeks' work with one-half the stated remuneration.

## WORK SCHOLARSHIPS

The Department of Field Work is maintained to help students receiving scholarship aid to secure work opportunities where they may render service for such aid. Their work will be supervised so that their experiences may be part of their ministerial training. Students not on scholarship are also helped to secure work opportunities for the experience to be gained. All students working under the department have their board, room, laundry, and travel expenses provided by the charge served. Certain courses are required of all students engaged in field work and are designed to prepare students for the work in which they engage. All students assigned to field work must maintain satisfactory grades and attitudes.

## STUDENT GOVERNMENT ASSOCIATION

Each student of the Divinity School upon enrollment becomes a member of the Student Government Association. Four officers are elected by the student body annually in April to serve for the following year. These officers, the President, Vice-President, Secretary, and Treasurer, along with the Dean of the Divinity School or the Dean of Students, serve as the Executive Committee, and the committee chairmen constitute the Student Council which meets in monthly session to review and coordinate the programs of the several committees. It is desired that all students contribute to the corporate life of the School through active participation in the work of the committees. The Association operates on the basis of a unified budget, each student contributing to its support dues in the amount of $\$ 3.00$ per semester.

## REQUIREMENTS FOR GRADUATION REQUIREMENTS FOR ADMISSION

The Divinity School is a fully accredited member of the American Association of Theological Schools. Candidates for admission must hold the degree of A.B., based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, or the equivalent of such a degree, and their college records must be such as to indicate their ability to carry on graduate professional studies. They will be admitted without examination on presentation of an official transcript of college and other academic credits which they may have secured. The application of students from foreign countries will be considered, each on its own merits, the general principle being that a
training equivalent to that of a baccalaureate degree from an accredited American college must have been secured. Women will be admitted on the same basis as men. The Divinity School accepts students who desire to transfer from other accredited theological schools on the basis of transcripts of their work and honorable dismissal. However, all transfer students will be expected to meet the full requirements of the Divinity School and should recognize the fact that there may be loss of time in conforming to these requirements. Credits will be formally accepted only after the student has spent one semester in the Duke Divinity School. In addition to an adequate academic preparation, applicants must satisfy the Faculty as to their Christian character and purpose. A formal application blank may be secured from the Dean of the Divinity School. This must be filled out and returned by all candidates for admission.

## ADMISSION OF GRADUATES OF NON-ACCREDITED COLLEGES

1. Applicants for admission who are graduates of non-accredited colleges will be considered on their merits, but only those who give evidence of special promise will be admitted. Specifically, such applicants must show that they have attained a superior average (approximately "B") for a four-year college course.
2. Admission of such persons will, in every case, be on probation. Probation means:
a. Students who, during the first year of Divinity School work (thirty semester hours), maintain a consistently low average, including one or more failures, will be required to withdraw from the school.
b. In the case of a student admitted on probation, no credit will be granted toward either the B.D. or the M.R.E. degree for any course in which, during the first year's work (thirty semester hours), a grade of less than " S " (see catalogue section on "grading system") is recorded.
c. When the student has been admitted on probation, and is subsequently found to be deficient in the essential requisites of any given area of the "Pre-Seminary Curriculum" (see next section of catalogue), the Divinity School Faculty reserves the right to direct that the student make up such deficiencies by additional courses of study taken in other schools of Duke University in order to qualify for either the B.D. or M.R.E. degree, but without credit for such courses toward those degrees.

## PRE-SEMINARY CURRICULUM

The Divinity School, in substantial agreement with the standards of the American Association of Theological Schools, recommends that prospective candidates for admission keep in mind the desirability of including the following in their undergraduate curriculum:
(A student lacking the essential requisites in any given area may be directed to make up the deficiencies by additional courses of study in order to qualify as a candidate for a Divinity School degree.)

It is suggested that a student should acquire a total of 90 semester hours or complete approximately three-fourths of his college work in the areas listed below. No work done towards a first college degree may be used toward a Divinity School degree.

| Basal Fields | Semester | Sem. Hours |
| :---: | :---: | :---: |
| English | 6 | 12-16 |
| Literature, Composition and Speech |  |  |
| Philosophy | 3 | 6-12 |
| At least two of the following : |  |  |
| Introduction to philosophy |  |  |
| History of philosophy |  |  |
| Ethics |  |  |
| Logic |  |  |
| Bible or Religion | 2 | 4-6 |
| History | 3 | 6-12 |
| Psychology | 1 | 2-3 |
| A foreign language | 4 | 12-16 |
| At least one of the following : |  |  |
| Latin |  |  |
| Greek (especially recommended) |  |  |
| Hebrew (especially recommended) |  |  |
| French |  |  |
| German |  |  |
| Natural sciences | 2 | 4-6 |
| Physical or biological |  |  |
| Social sciences | 2 | 4-6 |
| At least two of the following: |  |  |
| Economics |  |  |
| Sociology |  |  |
| Government or political science |  |  |
| Social psychology |  |  |
| Education |  |  |

## CONCENTRATION

Concentration of work, or "majoring," is a common practice in colleges. For such concentration or major, a constructive sequence based upon any one, two, or three of the above fields of study would lead up naturally to a theological course.

Of the various possible areas of concentration, where areas of concentration are required, a major in English, philosophy, or history is regarded to be the most desirable.

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF DIVINITY

During the academic year 1948-49, the curriculum of the Divinity School was extensively revised. By action of the Faculty, all students admitted to the Divinity School as of September 1, 1949, will conform to the requirements for the B.D. degree as printed in this issue of the catalogue. All students planning to graduate as of June, 1950, will continue under the former plan, especially as to requirement of a major and thesis. A special committee, consisting of the Dean and Professors Cannon and Petry, was set up to adjust the new curriculum to the rights and needs of all other students, whether already enrolled in the School or entering as transfers from other institutions: many such students may find it necessary to graduate under the major and thesis plan.

The plan for the first two years of the revised curriculum went into effect as of September, 1949. The Vocational Groups and the Senior Seminars called for in the work of the third year are in process of development and will be put into effect for the year 1950-51.

The requirements for the degree of Bachelor of Divinity are the following:

Completion of ninety semester hours of course work, including the required courses of the Core Curriculum.

The selection, not later than the end of the middle year, of one of the Vocational Groups, and completion of the special requirements of the Group chosen, including satisfactory completion of the work of at least one Senior Seminar.

Demonstration of a detailed knowledge of the contents of the narrative portions of the English Bible. Examinations for this purpose in Old and New Testament are given each spring. Examinations for the academic year 1950-1951 will be held on successive Wednesdays in April, exact dates to be announced later.

Students who show deficiencies in English will be required to take special training in addition to meeting the other requirements for the degree. A degree may be withheld on the grounds of English deficiency only.

The course leading to the degree of Bachelor of Divinity is planned to cover three years of normal academic work. In no case will this degree be conferred on a student until he has spent at least two semesters in residence in the Divinity School. This is defined as the completion of thirty semester hours of work, not more than six hours of which may be taken in the Duke University Summer Session.

By special permission a student who has begun his work in Duke Divinity School as a candidate for the B.D. degree may be given credit for not more than 30 semester hours of work taken in another seminary on the approved list of the American Association of Theological Schools. Except in unusual cases, request for such credits must be approved prior to the beginning of work at the other institution. In every such case, however, the final 15 hours of class credit presented for graduation must be done at Duke and must include satisfactory completion of one of the Senior Seminars. No such student will be relieved of any of the requirements for graduation specified in the catalogue of the Duke Divinity School.

Unless all the work offered for the B.D. degree is completed within a period of nine years from the date of beginning, the student will be required to make formal application for re-admission and revaluation of his credits in the light of the then-existing curriculum of the Divinity School. Except in unusual cases, work of a fragmentary character taken over a long period of years, or work taken many years before a student is admitted to the Duke Divinity School, will not be accepted for credit toward the B.D. degree.

## THE CORE CURRICULUM

(Required Courses)
First Year, First Semester
11. Introduction to the Old Testament. 4 s.h.
13. History of the Pre-Reformation Church.-4 s.h.

Mr. Stinespring
Mr. Petry
15. Living Religions of the World.- 3 s.h.
17. Effective Speaking. -2 s.h.

Mr. Cannon

First Year, Second Semester
18. Early Christian Life and Literature.-4 s.h.

Mr. Clark
20. Introduction to Christian Theology.-4 s.h.

Mr. Cushman
22. Psychology of Religion.-3 s.h.

Mr. Hickman

## Second Year, First Semester

19. Introduction to New Testament Theology.-Prerequisite: N.T. 18. 2 s.h.

Mr. Young
21. Introduction to the History of Christian Doctrine.-Prerequisite: C.T. 20. 2 s.h. Mr. Cushman
23. Church Administration I.-2 s.h. Mr. Walton
25. Educational Theory and Practice in the Church.-2 s.h. Mr. Spence
27. Christian Ethics I.-3 s.h. Mr. Beach
29. Sermon Construction-Theory.-Prerequisite: Sp. 17 or 132. 2 s.h.

Mr. Cleland

## Second Year, Second Semester

12. Psalms, Wisdom Literature, and the Problem of Theodicy.-Prerequisite: O.T. 11. 2 s.h.

Mr. Brownlee
14. History of the Reformation and Post-Reformation Church.-Prerequisite: C.H. 13. 2 s.h.

Mr. Petry
24. Missions.-2 s.h.

Mr. Cannon
26. Introduction to Pastoral Care.-2 s.h.

Mr. Dicks
28. Movements in American Religious Thought.-3 s.h. Mr. Smith
30. Sermon Construction-Practice.-2 s.h. Mr. Cleland and Mr. Rumin

## Third (Senior) Year

Vocational Groups. (One of these to be chosen by every B.D. candidate not later than the end of the Middle Year.)

## I. The Preaching Ministry and Pastoral Service

In the third year, students electing Vocational Group I must take one course from each of the following fields, except in the case of those students who have previously elected these courses during the first two years:

> Religious Education
> Practical Theology
> Pastoral Care

Speech (for those found deficient in first course)
Philosophy of Religion

The student will also elect one Senior Seminar. The seminar will carry credit of two semester hours. Free electives in sufficient amount to complete 90 hours for graduation will be taken.
II. Applied Christianity
A. Religious Education. In the third year, students electing Vocational Group II must take the following courses, except in the case of those students who have previously elected these courses during the first two years:

Religious Education and Practical Theology (3 courses distributed between the two departments)

Psychology of Religion (1 course)
The student will also elect one Senior Seminar. The seminar will carry credit of two semester hours. Free electives in sufficient amount to complete 90 hours for graduation will be taken.
(Students planning to teach the Bible in public schools should elect some work in Bible.)
B. Missions.
C. Chaplaincy: Hospital or General.
D. Campus Religious Directors.
(These to be dereloped as called for.)

## III. Teaching and Research in Religion

In the third year, those choosing Vocational Group III must take seven courses from the following:

$$
\begin{array}{ll}
\text { American Religious Thought } & \text { History of Religions } \\
\text { Bible (may be language) } & \text { Psychology of Religion } \\
\text { Christian Ethics } & \text { Religious Education } \\
\text { Church History } & \text { Theology }
\end{array}
$$

The student will also elect one Senior Seminar. The seminar will carry credit of two semester hours. Free electives in suificient amount to complete 90 hours for graduation will be taken.

## ADMINISTERING THE NEW CURRICULUM

For the administration of the new curriculum the following regulations have been adopted:

Full-time students will take the core required courses as specified for the respective semesters, being limited to the amount of free elective work indicated in each term. The only exceptions are as specified in the provision for languages.

Since the four-day-a-week schedule of required courses and the free week-ends have been planned with special reference to the needs of students holding pastoral charges, the limitation of nine hours of class work has been changed to permit, but not require, such students to carry the total of hours of the core requirements for the first four semesters, but free electives may not be taken until all the core requirements have been fulfilled. A student who does not do creditable work will be required to reduce his schedule.

The status of "special student" may not be granted simply to permit avoidance of the schedule of core required courses. Every request for this classification will be carefully investigated and approval voted in each case by the curriculum committee in the cases of students already admitted to the Divinity School, and by the admissions committee in the case of applicants for admission as "special students."

Students working under the Duke Endowment, and others holding charges, are required to take one of the Field Work seminars. This work will be taken in the second semester of the first year. Unless taken at that spot, such seminars will be charged against the "free elective" allowance of later terms.

For a student taking both Greek and Hebrew, the Greek may be continued in the second year by postponing one or both of the 2-hour core
courses in Old and New Testament. In such cases, the Hebrew will be the free elective in that year.

A part-time student who desires to begin the study of Greek in the first year may postpone the core required course in Old or New Testament.

The Registrar will make suitable entry on the permanent record of any student who is granted permission to deviate from the core requirements in the matter of language.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF RELIGIOUS EDUCATION

The course of study leading to this degree is designed to provide training primarily for individuals desiring to become educational assistants in churches or to engage in other forms of Christian education.

Candidates for this degree must hold the degree of A.B., based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, or the equivalent of such a degree, and with academic and personal records which afford promise of competence in this area of service. The course of study will be especially useful for individuals who had one or more years of experience in religious education and desire further training. Candidates for this degree will be limited in number, and individuals interested are urged to apply for admission well in advance of the opening of the academic year. All work offered for this degree, whether in the regular year or in summer sessions, must be completed within a period of six years from the date of beginning. Only a limited amount of work may be taken in the Duke University Summer Session.

Certain prerequisite studies must have been taken by the candidate during the course of his academic training or must be secured, without credit toward the M.R.E. degree, after being admitted to the Divinity School. These are the following:

| General Psychology | 6 s.h. |
| :--- | :--- |
| Sociology, or approved equivalent |  |
| Biblical Studies (including work in both the Old and the | 6 s.h. |
| New Testament) | 6 s.h. |

Thirty semester hours of academic work are required for graduation Eighteen of the semester hours must be in the following fields:

| Religious Education | 6 s.h. |
| :--- | :--- |
| Psychology of Religion | 3 s.h. |
| Christian Ethics | 3 s.h. |
| Biblical Studies | 6 s.h. |

The candidate must also engage in practice teaching in a church school or undertake some other approved project and must submit a written report covering his practical experience. This project work and report will be under the supervision of the Department of Religious Education.

## COURSES OF INSTRUCTION*

This is a condensed description of courses. For a full description, see the Bulletin of the Divinity School.

Odd numbers indicate fall semester courses; even numbers indicate spring semester courses. Required courses of the Core Curriculum and Senior Seminars are numbered from 11 to 99. Elective courses carrying credit in the Divinity School only are numbered from 101 to 199. Courses approved for credit in both the Divinity School and the Graduate School of Arts and Sciences are numbered above 200.

## I. BIBLICAL STUDIES <br> OLD TESTAMENT

11. (Formerly 203.) Introduction to the Old Testament.-4 s.h.

Mr. Stinespring
12. (Formerly 204.) Psalms, Wisdom Literature, and the Problem of Theodicy.-2 s.h. Mr. Brownlee

201-202. First Hebrew.-6 s.h. Mr. Stinespring
205-206. Elementary Arabic.-6 s.h. Mr. Stinespring
[Not offered in 1950-1951]
207-208. Second Hebrew.-6 s.h. Mr. Brownlee
301. The Religious Thought of Post-Exilic Judaism.-Prerequisite: O.T. 11. 3 s.h.

Mr. Brownlee
304. Aramaic.-3 s.h. Mr. Stinespring
305. Third Hebrew.-3 s.h.

Mr. Stinespring
[Not oftered in 1950-1951]
306. Advanced Hebrew.-3 s.h.

Mr. Brownlee
307. Syriac.-Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h. [Not offered in 1950-1951]
309. History of the Ancient Near East.-3 s.h.

Mr. Brownlee
310. Old Testament Prophecy.-Prerequisite: O.T. 11. 3 s.h.

Mr. Stinespring
$\dagger$ History of Art 215. Religious Art of the Ancient Near East.- 3 s.h.
$\dagger$ History of Art 216. Religious Art in the Classical World. $\mathbf{3}$ s.h.
Mr. Markman

[^47]18. (Formerly 213.) Early Christian Life and Literature.-4 s.h.

Mr. Clark
19. (Formerly 214.) Introduction to New Testament Theology.-Prerequisite: N.T. 18. 2 s.h. Mr. Young
103-104 (Formerly 211-212.) Hellenistic Greek. Mr. Young
105. (Formerly 219.) Life of Paul.-3 s.h.

Mr. Myers
109. (Formerly 216.) History of the English Bible.-3 s.h.

Mr. Clark
217. The New Testament in Greek.-Prerequisite: six semester hours' study of the Greek language. 2 s.h.

Mr. Clark
218. Galatians and I Corinthians.-Prerequisite: six semester hours' study of the Greek language. 2 s.h.

Mr. Clark
220. I Peter and the Gospel of John.-Prerequisite: six semester hours' study of the Greek language. 2 s.h.

Mr. Clark
311. The Life and Teachings of Jesus.-Prerequisite: N.T. 18. 3 s.h.

Mr. Clark
312. Advanced New Testament Theology.-Prerequisite: N.T. 19. 3 s.h. Mr. Young
313. Apostolic Fathers.-Prerequisite: N.T. 18. 2 s.h. Mr. Clark
314. (Formerly 317.) Patristic Thought.-Prerequisite: N.T. 19. 3 s.h.

Mr. Young
316. Hellenistic Religions.-Prerequisite: N.T. 18. 3 s.h. Mr. Clark
317. (Formerly 320.) The Synoptic Gospels.-Prerequisite: N.T. 18. 3 s.h. Mr. Clark
318. Text of New Testament--Prerequisite: N.T. 18 and a reading knowledge of Greek. 3 s.h. Mr. Clark
319. Intellectual Environment of Early Christianity.-Prerequisite: N.T. 19 , or permission of the instructor. 3 s.h.

Mr. Young
*Greek 257.-3 s.h.
Mr. Rogers
*Latin 258.-3 s.h.
Mr. Rogers

## II. HISTORICAL STUDIES <br> HISTORY OF RELIGION AND MISSIONS

15. (Formerly 281.) Living Religions of the World.-3 s.h. Mr. Cannon
16. (Formerly 282.) Missions.-2 s.h.

Mr. Cannon
108. (Formerly 284.) Comparative Religion I.-Prerequisite: H.R. 15. 3 s.h.

Mr. Cannon
110. (Formerly 286.) Comparative Religion II.-Prerequisite: H.R. 15. 3 s.h.
[Not offered in 1950-1951]
112. (Formerly 288.) The Religions of India.-3 s.h.

Mr. Cannon
[Not offered in 1950-1951]

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

113. (Formerly 283.) The Religions of the Far East.-3 s.h. Mr. Cannon [Not offered in 1950-1951]
114. (Formerly 289.) Buddhism.-Prerequisite: H.R. 15. 2 s.h.
[Not offered in 1950-1951]
Mr. Cannon
115. (Formerly 287.) Mohammedanism.-Prerequisite: H.R. 15. 2 s.h.

Mr. Cannon

## CHURCH HISTORY

13. (Formerly 233.) History of the Pre-Reformation Church.-4 s.h.

Mr. Petry
14. (Formerly 234.) History of the Reformation and Post-Reformation Church.-2 s.h.

Mr. Petry
136. (Formerly 337.) Pre-Reformation Preaching.-Prerequisite: C.H. 13. 2 s.h.

Mr. Petry
[Not offered in 1950-1951]
137. (Formerly 336.) Religious Leaders in Christian History.-Prerequisite: C.H. 13. 2 s.h. Mr. Petry
138. Great Books in Christian History.-3 s.h.

Mr. Petry
[Not offered in 1950-1951]
139. (Formerly 339.) Methodism.-Prerequisite: C.H. 13. 2 s.h.
[Not offered in 1950-1951] Mr. Petry
330. The Church in Europe since 1800.-3 s.h. Mr. Petry
[Not offered in 1950-1951]
331. The Social Message of the Early and Medieval Church.-Prerequisite: C.H. 13 and 14.3 s.h.

Mr. Petry
332. The Medieval Church.—Prerequisite: C.H. 13 and 14. 3 s.h.

Mr. Petry
334. Church Reformers and Christian Unity.-Prerequisite: C.H. 13 and 14. 3 s.h.

Mr. Petry
[Not offered in 1950-1951]
336. (Formerly 333.) A History of Christian Renunciation in the Middle Ages.-Prerequisite: C.H. 13 and 14. 3 s.h.

Mr. Petry
[Not offered in 1950-1951]

## AMERICAN RELIGIOUS THOUGHT

28. (Formerly 296.) Movements in American Religious Thought.-3 s.h. Mr. Smith
29. Religious Thought in Colonial America.-3 s.h. Mr. Smith
30. American Religious Thought in the Nineteenth Century. 3 s.h.

Mr. Smith
397. Current American Theology.-3 s.h.

Mr. Smith
398. Modern American Christology.-3 s.h.

Mr. Smith
[Not offered in 1950-1951]
399. Social Thought in American Christianity.-3 s.h.

Mr. Smith
[Not offered in 1950-1951]
495. Seminar: Jonathan Edwards and John Wesley.-2 s.h. Mr. Smith
496. Seminar: William James and John Dewey.-2 s.h. Mr. Smith

## III. THEOLOGICAL STUDIES PHILOSOPHY OF RELIGION

119. (Formerly 229.) Introduction to Philosophy of Religion.-2 s.h.
[Not offered in 1950-1951]
Mr. Bosley
120. Philosophy of Contemporary Theism.-2 s.h.

Mr. Bosley
[Not offered in 1950-1951]
122. The Philosophy of Naturalistic Theism.-Prerequisite : consent of instructor. 2 s.h.

Mr. Bosley
[Not offered in 1950-1951]
123. Theories of Value: A General Course.-2 s.h. Mr. Bosley
[Not offered in 1950-1951]
124. The Philosophy of Personalism.-Prerequisite: consent of instructor. 2 s.h.

Mr. Bosley
[Not offered in 1950-1951]
382. Religious Knowledge.-Prerequisite : P.R. 119 or consent of instructor. 2 s.h.

Mr. Bosley
[Not offered in 1950-1951]

## CHRISTIAN THEOLOGY

20. (Formerly 221.) Introduction to Christian Theology.-4 s.h.

Mr. Cushman
21. (Formerly 222.) Introduction to the History of Christian Doctrine.Prerequisite: C.T. 20. 2 s.h.

Mr. Cushman
107. (Formerly 329.) The Person and Work of Christ.-Prerequisite: C.T. 20. 2 s.h.
[Not offered in 1950-1951]
224. (Formerly 323.) Conceptions of Man in Western Thought.- ${ }^{3}$ s.h.

Mr. Cushman
321. Platonism and Christianity.-Prerequisite: permission of instructor. 3 s.h. Mr. Cushman
322. Theology and Philosophy in the Nineteenth Century.-Prerequisite: C.T. 20. 2 s.h. Mr. Cushman
325. Philosophical Theology I.--Prerequisite: C.T. 20. 3 s.h.
[Not offered in 1950-1951] Mr. Cushman
326. Philosophical Theology II.-3 s.h. Mr. Cushman
[Not offered in 1950-1951]
328. (Formerly 321B.) Seminar in Twentieth-Century Continental and British Theology.-3 s.h.

Mr. Cushman
329. Seminar in Historical Theology.-Prerequisite: C.T. 21.3 s.h.

Mr. Cushman
See also New Testament 312.-Advanced New Testament Theology. christian ethics
27. (Formerly 291.) Chrstian Ethics I.-3 s.h.

Mr. Beach
114. (Formerly 292.) Christian Ethics II.-Prerequisite: C.E. 27. 3 s.h. Mr. Beach
391. Hstorical Types of Christian Ethics I.-Prerequisite: C.E. 27 or its equivalent. 3 s.h. Mr. Beach
392. Historical Types of Christian Ethics II.-Prerequisite: C.E. 391. 3 s.h. Mr. Beach
393. The Christian Interpretation of History.-Prerequisite: C.E. 27. 3 s.h.

Mr. Beach
394. Christianity and the State.-Prerequisite: C.E. 27. 3 s.h. Mr. Beach
*238 Race and Culture. Mr. Thompson
*249. Child Welfare.
Mr. Jensen Mr. Hart
Mr. Jensen
*276. Criminology.
Mr. Jensen

## PSYCHOLOGY OF RELIGION

22. (Formerly 271.) Psychology of Religion.-3 s.h. Mr. Hickman

125 (Formerly 272.) Advanced Psychology of Religion.-3 s.h.
Mr. Hickman
127. (Formerly 373.) Psychology of Preaching.-2 s.h. Mr. Hickman
128. (Formerly 374.) Pastoral Psychology.-2 s.h. Mr. Hickman
129. (Formerly 375.) Genetic Psychology of Religion.-3 s.h.
[Offered in the second semester]
Mr. Hickman
130. (Formerly 376.) Studies in Mysticism.-3 s.h.

Mr. Hickman
[Not offered in 1950-1951]

## IV. PRACTICAL STUDIES

The Core Curriculum sequence, Consolidated Course in Christian Leadership, comprises the following courses in the Division of Practical Studies, each of which is listed in its appropriate department:
P.T. 23. Church Administration I.-2 s.h.
R.E. 25. Educational Theory and Practice in the Church.-2 s.h.
H.R. 24. Missions.-2 s.h.
P.C. 26. Introduction to Pastoral Care.-2 s.h.

## PRACTICAL THEOLOGY

23. (Formerly 252.) Church Administration I.-2 s.h.

Mr. Walton
142. (Formerly 253.) Field Work I-General.-(Note: All students engaged in any type of field work are required to take this course, or 144 , Field Work II, or 146, Field Work III.)

Mr. Walton
144. (Formerly 254.) Field Work II-Rural.-1 s.h.

Mr. Walton
145. Field Work III-Urban.-1 s.h.

Mr. Walton
146. Church Administration II-2 s.h.

Mr. Walton
147. The Urban Community and Its Church.-2 s.h.

Mr. Walton
[Not offered in 1950-1951]
148. Church Finance.-1 s.h.

Mr. Walton
149. Parish and Community Research and Analysis.-1 s.h. Mr. Walton
150. The Rural Pastor and His Work.-2 s.h.

Mr. Walton
151. (Formerly 353.) The Rural Church.-2 s.h.

Mr. Walton

[^48]152. (Formerly 354.) Parish Evangelism.-2 s.h.

Mr. Walton
[Not offered in 1950-1951]
153. Church Management and Supervision.-1 s.h.

Mr. Walton
154. (Formerly 356.) The Urban Church.-2 s.h.

Mr. Walton
[Not offered in 1950-1951]
155. (Formerly 357.) Church Polity: Comparative and Denominational.2 s.h.

Mr. Walton and Others
(The plan of this course is for the class to meet as a unit one hour a week for the study of the common interests of the denominations; for the other hour the class is divided into groups on the following plan:
a. The Polity of the Methodist Church.
b. The Polity of the Baptist Churches.
c. The Polity of the Congregational-Christian Churches.
d. The Polity of the Presbyterian Churches.
(Courses in the polity of other churches will be arranged as needed.)
157. Rural Community and Church Trends.-1 s.h.

Mr. Walton
RELIGIOUS EDUCATION
25. (Formerly 261.) Educational Theory and Practice in the Church.2 s.h.

Mr. Spence
161. Theories, Types and Techniques of Teaching.-2 s.h. Mr. Spence
162. (Formerly 262.) Methods and Materials of Religious Education.3 s.h.

Mr. Spence
163. (Formerly 363.) Worship and Drama.-3 s.h.

Mr. Spence
164. Religious Education of Children and Adolescents.-2 s.h.
[Not offered in 1950-1951]
Mr. Spence
166. Religious Education of Young People and Adults.-2 s.h.

Mr. Spence
168. (Formerly 366.) The Educational and Spiritual Values of Great Lit-erature.-3 s.h.

Mr. Spence
365. History of Religious Education in Modern Times.-3 s.h.
[Not offered in 1950-1951]
Mr. Spence
368. Theories of Religious Education.-3 s.h. Mr. Spence
[Not offered in 1950-1951]

## PASTORAL CARE

26. (Formerly 251.) Introduction to Pastoral Care.-2 s.h. Mr. Dicks
27. (Formerly 255.) Pastoral Care Practicum I.-Prerequisite: P.C. 26 or consent of instructor. 2 s.h.

Mr. Dicks
[Not offered in 1950-1951]
172. (Formerly 256.) Pastoral Care Practicum II.-Prerequisite: P.C. 26 or P.C. 171. 2 s.h.
[Not offered in 1950-1951]
173. Religion and Health.-Prerequisite: P.C. or consent of instructor. 2 s.h.

Mr. Dicks
174. Personal Counseling.-2 s.h.

Mr. Dicks
175. (Formerly 351.) The Literature of Pastoral Care.-Prerequisite : consent of instructor. 2 s.h.

Mr. Dicks
177. Advanced Seminar in Pastoral Care--Prerequisite: P.C. 26 or consent of instructor. Offered each semester. 2 s.h. Mr. Dicks

## PREACHING

29-30. Sermon Construction-Theory and Practice.-4 s.h. Mr. Cleland
181. (Formerly 244.) Practical Problems in Preaching.-Prerequisite: Pr. 29 and 30. 2 s.h.

Mr. Cleland [Not offered in 1950-1951]
183. (Formerly 346.) Materials of Preaching-Biblical.-2 s.h.
[Not offered in 1950-1951]
Mr. Cleland
185. (Formerly 348.) Materials of Preaching-Non-Biblical.-2 s.h.

Mr. Cleland
See also: C.H. 136. Pre-Reformation Preaching.
Psy.R. 127. Psychology of Preaching.
PUBLIC WORSHIP
178. (Formerly 355.) Public Worship.-3 s.h.

Mr. Cleland and Mr. Rudin
180. (Formerly 358.) Church Music.-2 s.h.

Mr. Barnes
SPEECH
17. (Formerly 241.) Effective Speaking.-2 s.h. Mr. Rudin
132. (Formerly 242.) Public Speaking.-2 s.h. Mr. Rudin
134. (Formerly 246.) Oral Interpretation of Literature.-Prerequisite: Speech 17. 2 s.h.

Mr. Rudin
[Not offered in 1950-1951]

## V. SENIOR SEMINARS

In the third year each B.D. candidate will take one Senior Seminar, yielding 2 s.h. credit. No student may enroll in more than one Senior Seminar a semester nor receive credit for more than two such Seminars. Juniors and Middlers are not eligible for credit. Senior Seminars will not yield Graduate credit.

Enrollment in each Senior Seminar is limited to 12 to 15 students. No Senior Seminar need be conducted for an enrollment of less than 3 to 5 students. Each Senior Seminar will be in charge of a Chairman. Not less than two nor more than four instructors will participate in each Seminar. General supervision of all Senior Seminars will be exercised by a standing committee of the faculty.

The work done in each Senior Seminar should be equivalent to that done in a normal 2 s.h. course, with reading based upon a prepared reading list and a substantial paper or written project report. It is contemplated that the list of Senior Seminars will probably be changed after the first year and such changes will be approved by the faculty on recommendation of the standing committee on Senior Seminars.
B.D. students planning to graduate in 1950-1951 will, as previously
voted by the faculty, have the option of graduating with a major and thesis.

First Semester
61. The Christian Faith and Its Proclamation.-2 s.h.

Mr. Cushman, Mr. Cleland, Mr. Rudin
63. The Ecumenical Movement in the Modern Church.-2 s.h.

Mr. Smith, Mr. Cannon, Mr. Cushman
65. Biblical Archaeology.-2 s.h.

Mr. Clark, Mr. Brownlee
Second Semester
62. Western Christianity and Non-Christian Faiths.-2 s.h.

Mr. Petry, Mr. Cannon, Mr. Hickman
64. The Old Testament as Materials of Teaching.-2 s.h.

Mr. Spence, Mr. Stinespring, Mr. Myers
66. The Christian Church and Social Change.-2 s.h.

Mr. Beach, Mr. Smith, Mr. Petry
68. Christian Experience and Contemporary Church Life.-2 s.h.

Mr. Hickman, Mr. Walton, Mr. Myers

## THE SCHOOL OF LAW

Fall Semester, 1950, begins September 21 ;<br>Spring Semester, 1951, begins January 29.

1949-1950
ANNOUNCEMENTS FOR 1950-1951

## THE SCHOOL: ITS PURPOSES AND METHODS

Built on the foundation of the School of Law of Trinity College, with its history of legal instruction running back to the middle of the past century, the Duke University School of Law was established in 1924. In 1930 the School was moved into its present building, the Faculty and library were greatly increased, and the activities of the School broadened. The School of Law is a member of the Association of American Law Schools and is on the "Approved List" of the American Bar Association. More than thirty-five states and one hundred institutions of higher learning are represented in its student body.

The curriculum of the School of Law provides thorough preparation for the practice of law in any state; its graduates have been admitted to the bar in forty states and the Territory of Hawaii. Opportunities for specialization in particular branches of the law are afforded.

## ADMISSION OF STUDENTS-REGISTRATION-FEES

## DIRECTIONS TO APPLICANTS FOR ADMISSION

Application must be made on the prescribed Law School application blank which will be sent upon request. No application can be finally passed upon until all required documents are on file. These documents are: (1) the application itself, to which a recently made personal photograph should be attached; (2) a complete transcript of record and evidence of graduation or right to honorable withdrawal from the institution from which credit is offered; (3) letters from (a) a responsible official of the college attended, (b) a responsible person in the applicant's home community, and (c) the applicant himself, in his own handwriting, containing a statement of his general activities, and intellectual interests with special reference to reasons for wishing to attend law school ; (4) a report of the applicant's score on the Law School Admission Test.

## TIMES OF ADMISSION

Beginning students may enter only at the opening of the Fall semester in any year. Students who have completed the first year of law study at this or any other law school approved by the Association of American Law Schools may enter at the beginning of any semester.

## REQUIREMENTS FOR ADMISSION

An application for admission as a candidate for the degree of Bachelor of Laws may be submitted by any person (1) who is a graduate of a college of approved standing and who has maintained a minimum average of "C" on all work taken, or (2) who has completed in a college of
approved standing work equivalent in number of units to three-fourths of that required for graduation and whose college work in its entirety shows an average grade equal to that required for graduation, the requirement in each case being determined by the regulations of the college where the work was taken.

Special provisions for the admission of veterans, whereby military service may be substituted for one year of the three years of college required for admission, are stated below.

## VETERANS' ADMISSION REQUIREMENTS

Any person who served in active military or naval service on or after September 16, 1940, and prior to the termination of the war, and who has been discharged or released therefrom under conditions other than dishonorable and who either has served ninety days or more (exclusive of any period he was assigned for a course of education or training under the Army Specialized Training Program or the Navy College Training Program), or has been discharged or released from active service by reason of an actual service-incurred injury or disability, may substitute such term of service for one year of the three years of college required for admission. Academic credits will be recognized if gained through examinations on work of college grade pursued while in the military or naval service, if such work is given credit by an approved college; such credits, however, may not exceed one year of the required two years of college study.

The Duke University School of Law has been approved by the Veterans Administration for law study under the provisions of the Vocational Rehabilitation Act, Public Law 16, and the Servicemen's Readjustment Act of 1944, Public Law 346, often referred to as the "G.I. Bill of Rights." An office is maintained at the University for the handling of the interests of the many students studying under the supervision of the Veterans Administration.

## COMBINED COURSE

A number of colleges, upon application by their students, have permitted those who have completed three years of undergraduate work to enter the Law School of Duke University and upon the satisfactory completion of the first year of law school work to receive their Bachelor of Arts degree from such colleges. It is suggested that students desiring to enter Duke University School of Law make inquiry of their proper college authorities regarding this point.

A student from an undergraduate college of Duke University who has completed three years of study may apply to that college to enroll in a combined course wherein his first year of law study may be accepted toward the Bachelor of Arts degree, and, upon the completion of four additional semesters of law study, he will receive the Bachelor of Laws degree.

## ADMISSION TO ADVANCED STANDING

Any person who has complied with the requirements for admission set forth in this announcement prior to the commencement of his law
study, who presents evidence of the satisfactory completion of at least one year of study at any law school which is a member of the Association of American Law Schools, and who is eligible for readmission to the law school from which he proposes to transfer, may be admitted to advanced standing, subject to such rules as would be applicable to students in this School having a comparable scholastic record. Provisional credit for courses so completed will be given, final credit being conditioned on the completion of at least one full year of law study in this School with an average at least five points above the passing grade. Adjustment of credit for work done in such other law schools may be made by the Dean or by vote of the Faculty.

## CANDIDATES FOR GRADUATE DEGREES

Applications for admission to graduate study should be addressed to the Dean of the Law School and should include transcripts of records of legal and pre-legal work.

## REGISTRATION

Registration must be completed on the first day of each semester. Instruction will begin in all classes on the following day. The applicant must obtain from the Dean of the Law School an admission card, indicating that he is entitled to register. Registration is conducted in the Law Building. All students, both old and new, are required to register at the beginning of each semester, at which time class schedules and course cards must be filled out and approved. Students who register in any semester at a date later than that prescribed are required to pay to the Treasurer of the University a penalty of $\$ 5.00$ for late registration unless excused therefrom. A student's registration for any semester is not complete until he has paid the tuition and fees for that semester. The $\$ 5.00$ penalty for late registration will be imposed, therefore, unless the student has paid his tuition and fees by registration day.

## REGISTRATION FOR BAR EXAMINATION

Many states now require that a student, prior to or shortly after beginning the study of law, register with the board of bar examiners of the state if he intends to practice therein. Each student should write to the secretary of the board of bar examiners of the state in which he plans to practice and ascertain if that state makes this requirement.

## CONDUCT OF STUDENTS

All students are admitted subject to the rules of the University and of the School of Law, and continuance in the School is conditioned upon the observance of such rules.

## FEES AND EXPENSES

Tuition fees are due at the beginning of each semester. The tuition fee is $\$ 175.00$ a semester. In addition, a general fee of $\$ 50.00$ per semester is required in lieu of separate fees for matriculation, medical service, and the like.

The admission of an applicant is not final until he deposits the sum
of $\$ 25.00$ with the Treasurer of the University. This deposit will not be returned. It will be credited to the account of the student or, if the student is entitled to the benefits of the Servicemen's Readjustment Act or the Vocational Rehabilitation Act, it will be refunded upon his matriculation.

An athletic fee of $\$ 5.00$, plus any Federal taxes that might be imposed, payable at the beginning of each Fall and Spring semester, is optional. Payment of the athletic fee entitles the student to admission to all athletic events on the campus.

The payment of the general fee entitles the student to full medical and surgical care, with the exceptions noted below. This service is under the direction of the University Physician with the co-operation of the staff of Duke Hospital. It includes hospitalization, medical and surgical care, drugs, dressings, X-ray studies, and ward nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes, treatment of teeth and of all chronic conditions, such as the removal of diseased tonsils, are not included in this service. The cost of any necessary braces and orthopedic appliances, as well as of special nursing, must be borne by the student.

## DINING SERVICE

Food service is cafeteria style. The cost of meals approximates $\$ 1.25$ to $\$ 1.75$ per day, depending on the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiplechoice menus and the Oak Room where full meals and a la carte items are served.

## THE GRADUATE DORMITORY AND THE "LAW CABINS"

Furnished double rooms may be secured in the graduate dormitory on the West Campus at $\$ 62.50$ per person per semester. A few single rooms are available at $\$ 87.50$ per semester.

A group of log cabins, a part of the dormitory system, especially designed as a study center for law students, is located in the Duke Forest about five minutes' walk from the Law Building. These cabins, five in number, including a large cabin for use as a social hall, house thirty-two students. All rooms in the law cabins are furnished double rooms and may be secured at $\$ 50.00$ per person per semester.

These charges in each case include heat, light, water, and janitorial service but do not include pillows or bed clothing of any kind.

Rooms are reserved only for applicants who have been officially accepted by the University, upon application to the Director in the Business Division, Duke Station, Durham, North Carolina. A reservation fee of $\$ 25.00$ must accompany the application for a room. The fee is deducted from the room rental charge at the time of registration for the semester; it is not refunded unless application for the refund is made sixty days prior to the registration date of the semester.

Each student is expected to supply necessary sheets, blankets, pillows, rugs, and curtains. Furniture, beds and mattresses ( $39^{\prime \prime} \times 74^{\prime \prime}$ ), tables, chairs, dressers, mirrors, and window shades are furnished by the University.

Law students are advised to make early application, since assignment of rooms is made considerably in advance of the beginning of each semester. The applicant should state that he has been accepted for admission to the School of Law. All dormitory or cabin rooms are to be occupied under the rules and regulations established by the University. Law students are not required to live in the University dormitories.

## BACHELOR OF LAWS DEGREE

## REQUIREMENTS FOR THE BACHELOR OF LAWS DEGREE

Upon favorable recommendation of the Faculty, the degree of Bachelor of Laws will be conferred on students who shall have successfully completed six semesters' study of law, the last two semesters of work immediately preceding the granting of such degree having been completed in this School.

A student shall be deemed to have completed successfully six semesters' study of law if during this period he has
(1) secured a passing grade in courses aggregating the number of semester hours in the first-year program, plus forty-eight semester hours, including all courses required for graduation ;
(2) secured in every required course a grade not requiring repetition thereof; and
(3) secured an average grade at least five points above passing in all work taken other than first-year courses, or, if the grade in such work is lower than that above specified, an average grade of five points above passing in all work taken.

Students who have spent only their last two semesters of study in residence in this School must have received an average grade at least five points above passing for that year.

## MINIMUM AND MAXIMUM STUDENT LOADS

No regular student is permitted to take less than ten course hours per semester. No first-year student is permitted to take courses in excess of the first-year program.

Second- and third-year students are not permitted to take for credit more than fifteen course hours per semester; nor to audit and take for credit more than sixteen course hours per semester. In exceptional cases, students may petition the Faculty for permission to take more or less than the prescribed maximum or minimum loads.

## GRADUATE WORK IN LAW

## OBJECTIVES OF THE GRADUATE STUDY PROGRAM

The graduate program of the School of Law is framed with a view to the encouragement and recognition of legal scholarship. It is addressed
to the needs of those who have objectives consistent with the purposes of graduate legal education. It provides training for the qualified student who aspires to a teaching career, or who wishes to become proficient in a special field of the law, to do serious legal research, to prepare himself for a public law practice in or out of government, or to acquire a broader and deeper legal education than the undergraduate curriculum offers.

## ADMISSION TO CANDIDACY FOR THE DEGREE OF MASTER OF LAWS

Any person who has received the first degree in law from a law school qualified for membership in the Association of American Law Schools may be admitted as a candidate for the degree of Master of Laws, provided he satisfies the Committee on Graduate Study that his objective in desiring to do graduate work in law is consistent with the purposes for which the program is offered, and provided he demonstrates to the Committee, on the basis of his law school record, his capacity to take and profit by graduate work in law. In exceptional cases an applicant who does not meet the above requirements may, on vote of the Faculty, be admitted to candidacy for this degree if he is able to demonstrate that he is specially qualified, as by reason of practice or teaching. Normally the applicant will be required to show a level of scholarship appreciably higher than that required for the first degree in law at the institution from which he received that degree. An exceptionally high record in law school and in the graduate study program is expected of those who aspire to a teaching career. It should be emphasized that the graduate study program is designed for graduates with a definite objective, not for those who seek to pursue further law study simply from disorientation.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF LAWS

The degree of Master of Laws is reserved for students who, having demonstrated their capacity for graduate work in law, maintain a level of scholarship substantially higher than that required for the degree of Bachelor of Laws in a course of study which involves distinctively graduate work.

The candidate for this degree is required to complete a course of study comprising not less than twenty nor more than twenty-six semester hours, or approved research equivalent thereto. Two full semesters are required for the completion of this program. A candidate for this degree is required to include in his course of study at least two of the following courses: International Law, Jurisprudence, and Legal History. In addition to the minimum requirement of twenty semester hours, the candidate is required to submit an essay representing substantial research on a legal subject. This essay is to be prepared under the supervision of the instructor in charge of the field in which the research is done. The candidate will find it helpful to have formulated a project of research, or alternative projects, before his admission to graduate study.

The candidate's course of study will be selected, ordinarily, from the following list of courses: Public Regulation of Business Seminar, Jurisprudence, Conflict of Laws, International Law, Legal History, Banking,

Corporate Planning, Debtors' Estates, Insurance, Corporate Reorganization, Credit and Insolvency, Family Law, Family Law Seminar, Future Interests, Tax and Estate Planning, Labor Relations, Labor Standards, Labor Law Seminar, Federal Taxation I, Federal Taxation II, and State Taxation. This program of study is not inflexible. In appropriate cases the candidate will be encouraged to take related work in other departments of the University. Other courses of comparable content may be substituted for those listed. In special circumstances, credit not in excess of two hours per semester may be arranged for special, supervised research projects.

## ADMISSION TO CANDIDACY FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Any person holding the degree of Master of Laws from this or any other law school which is qualified for membership in the Association of American Law Schools may, on vote of the Faculty, be admitted to candidacy for the degree of Doctor of Juridical Science, provided he completed the work for the Master's degree with distinction.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Upon favorable recommendation of the Faculty, the degree of Doctor of Juridical Science will be conferred on students admitted to candidacy for that degree who complete and submit a monograph or series of essays suitable for publication and deemed by the Faculty to be of distinguished character. At least one academic year, and, in the absence of an extension granted by the Faculty, not more than three years, must elapse between the award of the Master's degree and the award of the degree of Doctor of Juridical Science. Students who have received the degree of Master of Laws from another law school must spend at least two full semesters engaged in research at this School, and in addition may be required to complete a course of study prescribed by the Committee on Graduate Study. The monograph or series of essays required may be based upon, or be an extension of, the essay required for the Master's degree, provided substantial additional research is represented.

## POST-GRADUATE AND REFRESHER COURSES

The School of Law provides instruction for students not meeting the requirements for admission to candidacy for graduate degrees who desire refresher courses or who desire simply to complete a fourth year of law school work. The successful completion of the courses taken by such students may be evidenced by certificate of the Dean.

## FACILITIES AND ACTIVITIES

## THE LAW SCHOOL BUILDING

The Law Building, like all other structures on the main campus of Duke University, is in Tudor Gothic style of colorful Cambrian stone from the Duke University quarries. It was occupied by the School of Law for the first time in September, 1930.

## THE LEGAL AID CLINIC

A Legal Aid Clinic was organized at the School of Law in 1931 under the direction of Professor John S. Bradway. The purpose of the Clinic is threefold: to give the student experience in handling actual cases; to develop creative skills, techniques, and mental habits; to encourage a sense of responsibility to client, court, profession, and community. The student is obliged to synthesize his knowledge in applying it to concrete situations which may often cut across course boundaries. He is introduced to the technique of fact gathering, the steps in a legal plan of campaign, the handling of clients, the management of a law office. A series of exercises is conducted in legal research and briefing, leading in the first semester to the writing by each student of a trial brief and in the second semester an appellate brief for a lawyer in active practice. Classroom work involves laboratory exercises in preparation for the handling of actual cases. The law practice in the Clinic is of a sort calculated to stress the ethical responsibilities of the lawyer and the social implications of his work. Instruction in the handling of the actual cases is individualized. Training in the art of interprofessional co-operation is provided through contacts between the Clinic and various agencies of social welfare in North Carolina.

The Legal Aid Clinic is in effect an active law office offering the student, under supervision, experience in interviewing actual clients, investigation of facts, preparing cases for adjustment or for trial in court, writing legal documents, briefing, and other tasks familiar to the practicing attorney: Approximately four hundred persons a year apply for the services of the Clinic. Only those applicants who are unable to pay counsel fees, and only those cases where there is no opportunity for a contingent fee are accepted.

The activities of the Clinic are centered in a suite of offices in the Law School building, and in an interviewing office in the business center of Durham. In addition to the Director, a staff of five members of the North Carolina State Bar assists in the educational and supervisory activities of the Clinic and in representing its clients in court proceedings.

## LAW AND CONTEMPORARY PROBLEMS

The School of Law publishes a quarterly, Law and Contemporary Problems, under the editorship of Professors Robert Kramer, John deJ. Pemberton, Jr., and Bueford G. Herbert. This periodical, now in its fifteenth volume, presents in each issue a symposium on a problem of current importance, in which the interrelated social and economic, as well as legal, factors are discussed by writers of competence in these respective fields.

## JOURNAL OF LEGAL EDUCATION

The Journal of Legal Education, a quarterly, is also edited at the School of Law under the direction of Professors Robert Kramer and John deI. Pemberton, Jr. The publication serves as the organ for the Association of American Law Schools, providing a clearing house for
ideas and professional studies in the constantly expanding field of legal education.

## THE DUKE BAR ASSOCIATION

The Duke Bar Association was established in the spring of 1931. It is open to all the students of the Law School and is organized along the lines of the American Bar Association. Its purpose is to introduce the student to the problems considered by the bar in professional organizations and to develop professional consciousness and responsibility. A Faculty Committee on Student Affairs serves as general adviser to the student officers.

## MOOT COURTS

A program of student Moot Court arguments is conducted under the supervision of the Faculty as a part of the courses in Research and Writing in which all students are required to participate.

## SCHOLARSHIPS AND LOAN FUNDS

Scholarships covering tuition ( $\$ 350$ ) are available to a limited number of first-year students, graduates of approved American universities and colleges, who are in need of such assistance. Applicants must have made excellent records in their college work and must show unusual promise of success in the study of law.

Applications for scholarships should be presented to the Dean of the Law School, together with a transcript of college work and letters of recommendation from responsible persons, certifying to the character and fitness of the applicant.

Other scholarships are awarded, as funds may permit, to high ranking students who have spent a year or more at the Law School. There are also a number of positions as assistants in the Law Library and as research assistants which are open to students, particularly in their second or third year, who do not receive other aids from the University.

The University administers certain endowed loan funds for the benefit of students who are not able to meet their expenses, for the purpose of helping worthy students who have established a satisfactory record at the School to continue their education.

Two funds have been provided out of which small loans may be made to tide students over temporary financial emergencies arising during the course of the year. One of these was supplied by the Law School Guild and is limited as to amount and duration of loan. The other is due to the generosity of Mr. P. Frank Hanes of the Winston-Salem bar and is limited to the needs of selected students. These funds are administered by a committee of the Faculty.

## GRADUATE LAW FELLOWSHIPS

Two graduate fellowships carrying a grant of $\$ 1,500$ each are awarded each year. To be eligible for these fellowships, applicants must have completed with distinction the work required for the first degree in law at this Law School or some other school approved by the Association of

American Law Schools, and must have been admitted to candidacy for the LL.M. or J.S.D. degree. Preference will be given to students who plan to make law teaching a career. All applications should be addressed to the Dean of the School of Law, Duke University. Fellowships will be awarded by the law faculty on recommendation of the Committee on Graduate Study.

## WILLIS SMITH PRIZE

Mr. Willis Smith, a member of the Raleigh bar and Chairman of the Board of Trustees of Duke University, awards annually to that member of the graduating class of the Law School who has maintained the highest scholastic average during the entire three years of law school work, a prize consisting of a set of books selected personally by Mr. Smith each year for that purpose. To qualify for this prize the student must have made an outstanding record through his law school course.

## JAMES F. BYRNES SENATE PRIZE

Delta Theta Phi Foundation, Inc., through the James F. Byrnes Senate, awards each year to that member of the first-year class of the Law School who has completed the work of the first year with the highest scholastic average during that year a cash prize of fifty dollars.

## ORDER OF THE COIF

A chapter of the Order of the Coif, national legal scholarship society, has been established at Duke University School of Law. Its purpose is "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship." Election is restricted to the ten per cent of the graduating class who have attained the highest rank in their law school work.

## LEGAL FRATERNITIES

Three of the largest national legal fraternities maintain active chapters at the School of Law. The Charles Evans Hughes Inn of Phi Delta Phi International Legal Fraternity was founded at the School of Law in 1931. The Wiley Rutledge Chapter of Phi Alpha Delta Law Fraternity was founded at the School in 1946. In 1947 the James F. Byrnes Senate of Delta Theta Phi Law Fraternity was installed at the School. All three fraternities seek to further professional standards. Students may be elected to membership at any time following their first full semester of law study. During the school year the fraternities sponsor separate programs of luncheons featuring prominent local speakers from the profession, an annual address by an attorney of national prominence, and occasional social functions.

## RECREATIONAL FACILITIES

The University is located about two miles from the business district of Durham on wooded hills constituting part of the five-thousand-acre Duke Forest, which is maintained by the School of Forestry. Within a short distance from the campus are facilities for golf, horseback riding,
and woodland hiking. Students of the Law School are entitled to the use of the University gymnasium, tennis courts, swimming pool, and similar privileges without cost. Motion pictures are shown in Page Auditorium twice a week, and concert programs, recitals, lectures, and plays are presented frequently.

## PROGRAM OF INSTRUCTION

The program of instruction of the School of Law has been thoroughly revised as a result of studies made by the Faculty. The curriculum had become overcrowded. For years new courses have been added at this and other schools as new fields of law have become important; old courses have been retained. Students who wished to specialize in particular fields often found it necessary to omit some of the older, more fundamental courses. Insufficient attention had been given to legal writing, the drafting of legal instruments, and legal planning.

The newly adopted curriculum is designed to insure that students may prepare to specialize in practice without foregoing any part of the basic legal education required for general practice and desirable for all specialists. Courses have been combined; duplications in courses have been eliminated. The larger part of students' third year has been opened for studies of specialties. New courses and seminars have been added, especially in the third year in which teaching methods will be different from those used in the older courses. In these courses and seminars legal writing and drafting and legal planning will be emphasized.

The courses offered are listed below. They are grouped under three headings: First-Year Program; Recommended Second-Year Program, and Third-Year Courses. At page 26 the individual courses are described; in that section of the Bulletin they are grouped under the following headings: 1. General Courses; 2. Business Courses; 3. Property Courses; 4. Public Law Courses; 5. Procedure and Practice Courses.

The First-Year Program is prescribed. It includes basic courses in the fields of contracts, business associations, property (including sales and other chattel transactions), and torts. These courses serve also to acquaint the student with the nature of the judicial process (which is stressed in Chattel Transactions), the court system and court procedure (stressed in Torts), and legal history (stressed in the second property course and in other courses). In the field of public law, legislation and the legislative process are studied in the first semester; there follows in the second semester a course in the fundamentals of criminal law and its administration. A course in research and writing (which is continued throughout the second year), after consideration of how the law is found in law books, trains students in writing memoranda of law and legal arguments and in drafting legal documents; the course emphasizes, for each student, the law of the state in which he intends to practice, and introduces stu-
dents to the art of legal planning. It includes the preparation of briefs and the arguing of moot court cases.

The Recommended Second-Year Program comprises nearly all the other basic courses which all students need regardless of what kind of law practice they plan to enter and the courses prerequisite to third-year work in special fields and in legal planning. Third-year courses may be substituted for courses in this program with the consent of the instructor and Dean. The research and writing course continues throughout the year. The basic work in property and business associations is completed. In the field of business transactions, the students study negotiable instruments and credit. A course in federal taxation, basic to advanced third-year work for specialists, adequately covers the subject for students not planning to specialize in it. Legal and equitable remedies, and court procedure in civil cases, are studied in the course in remedies. Students continue their study of public law in courses in constitutional and administrative law.

The Third-Year Courses (of which an aggregate of 10 to 15 hours each semester is to be selected by each student) are designed to emphasize legal planning and drafting and to enable students to equip themselves to specialize in particular fields. The faculty recommends that all students complete their basic legal education by taking courses in evidence and legal ethics. There are also fundamental courses in legal history and jurisprudence and in conflict of laws and international law. The rest of the third-year courses are in specialties; they are grouped below under the headings (1) business (including inter alia advanced corporation law), (2) estates, family, and property, (3) procedure, practice, and local law, and (4) public law (including inter alia labor law and taxation). A number of these specialty courses (those preceded by asterisks in the list below) emphasize legal planning and drafting. Each student is required to include two of these courses in his third-year program; enrollment in each is limited.

## THE FIRST-YEAR PROGRAM

|  | Semester Hours <br> Fall |
| :--- | :--- |
| Spring |  |

THE RECOMMENDED SECOND-YEAR PROGRAM
Semester Hours
Fall Spring
Constitutional Law [Including Federal Jurisdiction] ... 3
Remedies .................................................... 3 3
Research and Writing II [Required] ...................... 1 1
Business Associations II [Including Accounting] ....... 3
Conveyancing ................................................. ${ }^{3}$
Negotiable Instruments ....................................... 2
Administrative Law ............................................ 3
Credit Transactions ............................................. . 3
Federal Taxation I .................................................. 3
$\overline{15} \quad \overline{15}$

## THE THIRD-YEAR COURSES

Students are to select courses aggregating 10 to 15 hours each semester. Every student must select two of the starred courses listed under "B. Specialties." These courses emphasize legal planning and drafting. Enrollment in each of them is limited. Case Studies and Legal Aid Clinic each count as a single starred course, though the former may be selected in both semesters and the latter is a year course.
A. Advanced Courses.
Jurisprudence ..... 2
Conflict of Laws ..... 2
International Law ..... 3
Legal History ..... 2
B. Specialties.
I. Business. (See also "IV. Public Law.")
*Banking ..... 2
*Corporate Planning ..... 2
Debtors' Estates ..... 2
Insurance ..... 2
*Corporate Reorganization ..... 2
*Credit and Insolvency-Advanced Course ..... 2
II. Estates, Family, Property.
Family Law ..... 2
Future Interests ..... 3
Trusts ..... 2
Family Law Seminar ..... 2
*Tax and Estate Planning (Also listed under "IV. Public Law.") ..... 2
Wills ..... 3
III. Procedure, Practice and Local Law. *Case Studies (repeated each semester) ..... 2
Damages ..... 2
Evidence ..... 2
*Legal Aid Clinic ..... 2
Legal Ethics ..... 1
North Carclipa Practice ..... 2
North Carr'ine Statutes and Decisions ..... 2

## IV. Public Law.

Semester Hours
Fall Spring
*Constitutional Law and Federal Courts Seminar ..... 2
Labor Relations [National Labor Relations
Act; collective bargaining, strikes, etc.] ..... 3
Labor Standards [Workmen's Compensation, Fair Labor Standards Act, etc.] ..... 2
*Labor Law Seminar [Negotiations; contract clauses; grievances; arbitration, etc.] ..... 2
Municipal Corporations ..... 2
*Public Regulation of Business Seminar ..... 3
Federal Taxation II ..... 3
State Taxation ..... 2
*Tax and Estate Planning ..... 2(Also listed under "II. Estate, Family,Property")

## DESCRIPTION OF COURSES

This is a condensed description of courses. For a full description, see the Bulletin of the School of Lare.

## 1. GENERAL COURSES

Conflict of Laws.-Two hours a week second semester.
Mr. Herbert
Damages.-Two hours a week second semester.
Mr. McDermott
Family Law.-Two hours a week first semester.
Mr. Bradway
Seminar in Family Law.-Written reports required in lieu of an examination. Family Law is prerequisite. Two hours a week second semester.

Mr. Bradway
Jurisprudence.
Mr. Kramer
Legal History.-Two hours a week second semester.
Mr. Bolich
North Carolina Statutes and Decisions.-Two hours a week first semester.
Mr. Bryson
Torts.-Two hours a week first semester, three hours a week second semester.

Mr. Maggs
Trusts.-Two hours a week first semester.
Mr. Herbert

## 2. BUSINESS COURSES

Banking.-Two hours a week first semester.
Mr. Pemberton
Business Associations I.-Two hours a week second semester.
Mr. Latty
Business Associations II.-Three hours a week first semester.
Mr. Latty
Contracts.-Three hours a week throughout the year.
Corporate Planning.-Two hours a week first semester.
Mr. Stansbury
Mr. Latty
Corporate Reorganization.-Two hours a week second semester. Messrs. Latty and Pemberton

Credit and Insolvency.-Two hours a week second semester.
Mr. Pemberton
Credit Transactions.-Three hours a week second semester.
Mr. Pemberton
Debtors' Estates.-Two hours a week first semester.
Mr. Pemberton
Insurance.-Two hours a week first semester.
Mr. McDermott
Negotiable Instruments.-Two hours a week first semester.
Mr. Pemberton

Public Regulation of Business Seminar.-Three hours a week second semester. and members of the Economics Department Staff

## 3. PROPERTY COURSES

Chattel Transactions.-Two hours a week throughout the year.

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\text { Mr. Latty }^{\prime}
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Conveyancing.-Three hours a week first semester.
Mr. Bolich
Estates in Land.-Three hours a week second semester.
Mr. Bolich
Future Interests.-Three hours a week first semester.
Mr. BoLich
Tax and Estate Planning.-Two hours a week second semester.
Messrs. Bolich and Lowndes
Trusts.-Two hours a week first semester.
Mr. Herbert
Wills and Administration of Estates.-Three hours a week second semester.

Mr. McDermott

## 4. PUBLIC LAW COURSES

Administrative Law.-Three hours a week second semester. Mr. Kramer
Constitutional Law.-Three hours a week first semester, two hours a week second semester.

Mr. Maggs
Constitutional Law and Federal Courts Seminar.-Two hours a week second semester.

Mr. Maggs
Criminal Law.-Three hours a week first semester, Mr. Livengood
Federal Taxation I.-Three hours a week second semester. Mr. Lowndes
Federal Taxation II.-Three hours a week first semester. Mr. Lowndes
International Law.-Three hours a week second semester. Mr. Wilson
Labor Law Seminar.-Prerequisite : Labor Relations. Two hours a week second semester.

Mr. Livengood
Labor Relations.-Three hours a week first semester.
Mr. Livengood
Labor Standards.-Two hours a week second semester. Mr. Livengood
Legislation.-Three hours a week first semester.
Mr. Kramer
Municipal Corporations.-Two hours a week first semester.
Mr. McDermott
Public Regulation of Business Seminar.-Three hours a week second semester. Messrs. Livengood and Herbert and members of the Economics Department Staff
State Taxation.-Two hours a week first semester.
Mr. Lowndes
Tax and Estate Planning.-Two hours a week second semester. Messrs. Bolich and Lowndes

## 5. PROCEDURE AND PRACTICE COURSES

Case Studies.-Two hours. Repeated each semester.

Legal Ethics.-One hour a week second semester.
North Carolina Practice.-Two hours a week second semester.
Mr. Bryson
Remedies.-Three hours a week throughout the year. Mr. Stansbury

## 6. LEGAL RESEARCH AND WRITING

Research and Writing I.--One hour a week throughout the year. Messrs. Stansbury, Bryson, and Bradway, and the Legal Aid Clinic Staff

Research and Writing II.-One hour a week throughout the year Messrs. Stansbury, Bryson, and Bradway, and the Legal Aid Clinic Staff

## THE SCHOOL OF MEDICINE

Winter Quarter, 1950, begins January 3;
Spring Quarter, 1950, begins March 27 ;
Summer Quarter, 1950, begins July 5;
Autumn Quarter, 1950, begins October 2;
Winter Quarter, 1951, begins January 2;
Spring Quarter, 1951, begins March 27 ;
Summer Quarter, 1951, begins July 2;
Autumn Quarter, 1951, begins October 1.

1949-1950
ANNOUNCEMENTS FOR 1950-1951

## GENERAL STATEMENT

Duke University School of Medicine and Duke Hospital were established in 1930, through the munificent gift of the late James B. Duke. The School of Medicine has been planned to insure the greatest correlation between the various departments. These facilities are available also for students who are studying for degrees other than that of Doctor of Medicine. The School of Medicine has been approved as Class A by the American Medical Association and is also a member of the Association of the American Medical Colleges. On October 3, 1949, two hundred and eighty-three students were enrolled.

## FACILITIES OF THE HOSPITAL

Duke Hospital, an integral part of Duke University School of Medicine, has every modern convenience for the diagnosis, proper care, welfare and comfort of the patients, both private and charity, white and colored, whether they come from Durham or from a distance. It has 579 beds, including 30 bassinets for newborn infants, and 20 premature nursery bassinets. Medicine, including dermatology and neurology, has 77 ward beds; surgery, including urology, otolaryngology, ophthalmology, and orthopaedics, 135 ward beds; obstetrics, including gynccology, 59, and 50 bassinets; neuropsychiatry, 9; and pediatrics, 40. There are 209 private rooms and semiprivate cubicles, 7 air-conditioned operating rooms, 4 obstetric delivery rooms, and ward and student laboratories. Offices and examining rooms for members of the Medical Faculty are located in the Hospital. The Hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association, and the American College of Surgeons.

Duke Hospital and its Out-Patient Clinic were opened for patients on July 21, 1930. Through December 31, 1949, 377,865 individuals have been examined, diagnosed, and treated. The average daily census of hospital patients during the past year was $454 ; 104,408$ visits were made to the Out-Patient Clinic during the same period. Twenty-one per cent of the patients come from within a radius of twenty miles, the remaining 79 per cent come from the other 99 counties in North Carolina and from 36 other states and 3 foreign countries. The average distance traveled by the patients is more than seventy miles.

The Private Diagnostic Clinic was organized to co-ordinate the diagnostic studies, and to give better care to the complicated problems arising in the examinations of private patients. The Clinical Staff of Duke Hospital and School of Medicine forms the professional staff of this clinic, while the financial side is handled by a business manager. The offices and examining rooms are in Duke Hospital, and all the laboratory and diagnostic facilities of the Hospital and School of Medicine are utilized by the Clinic.

## LIBRARY

In addition to the General Library of Duke University and the departmental libraries of biology, chemistry, physics, etc., which have 960,859 volumes available for medical students, Duke Hospital Library contains 49,000 volumes of American and foreign medical literature and subscribes to 570 current American and foreign medical and other scientific journals. These books and journals are available daily from 8:30 A.M. to 10:30 P.M. for the students, nurses, staff, and medical profession.

## CURRICULUM OF THE SCHOOL OF MEDICINE

The curriculum, shown below, consists of two semesters in the first year and three quarters each in the second, junior and senior years. There is no summer quarter between the first and second year, but in the two clinical years the subjects of the autumn, winter and spring terms are repeated in the summer quarter. This accelerated schedule is optional,* and students may take the two semesters of their first year, and three quarters in each of their subsequent years, and receive their certificates in four calendar years, or, if they receive permission from the Curriculum Committee, they may at the end of their second year take the clinical quarters given during the summers and receive their certificates in three and one quarter calendar years.

Every effort is made to emphasize the close relationship of preclinical and clinical instruction. Members of the clinical staff assist in the teaching of preclinical subjects and demonstrate to the students of the first two years patients whose conditions illustrate the subjects being taught Thus, from the student's first days, he is impressed with the interdependence of all branches of the medical science. In the junior and senior years, preclinical instructors assist the clinical staff in presenting the underlying basis of disease.

The free time in this curriculum may be spent in elective work or anything else the student wishes to do. No credits are given, but opportunity is provided for each student on his own initiative to obtain additional training which he may feel to be necessary or desirable. Elective courses have been organized for small groups, or the time may be utilized in independent work (including research) in any department, clinical or preclinical. Arrangements for taking such courses or doing other work are to be made through the Curriculum Committee.

It is hoped that many students will migrate to other medical schools for one or more quarters. Those who wish to do so, or to substitute a schedule different from that listed below, must have their programs approved in advance by the Curriculum Committee, and afterwards must present evidence that they have completed work comparable to that of the curriculum during the quarters in which they were away or were following an altered schedule.

[^49]
## Duke University-The School of Medicine <br> OPTIONAL ACCELERATED SCHEDULE*

(The hours for these courses will be posted on the bulletin board.) FIRST YEAR
First Semester: HOURS October 3, 1949, to February 8, 1950.Anatomy (including histology and neuroanatomy)638
Second Semester:
February 15 to June 10, 1950.
Physiology ..... 341
Biochemistry ..... 279
Psychobiology ..... 12
Free time ..... 17
SECOND YEAR
Autumn Quarter (4th) :
October 3 to December 17, 1949.
Pharmacology ..... 143
Bacteriology ..... 176
Parasitology ..... 44
Public Health and Biostatistics ..... 66
Winter Quarter (5th) :
January 3 to March 18, 1950.
Pathology ..... 231
Public Health ..... 66
Introduction to Medicine and Surgery ..... 132
Spring Quarter (6th):
March 27 to June 10, 1950.
Pathology ................. ..... 223
Introduction to Medicine ..... 111
Clinical Microscopy ..... 95
JUNIOR YEAR
Summer Quarter (7th) :* July 5 to September 16, 1950.
Medicine (Junior) ..... 429
Autumn Quarter (8th):*
October 2 to December 16, 1950.
Surgery (Junior) ..... 429
Winter Quarter (9th) :*
January 2 to March 17, 1951.
Obstetrics and Gynecology (Junior) ..... 352
Neuropsychiatry ..... 77
SENIOR YEAR
Spring Quarter (10th) :*March 27 to June 9, 1951.
Medicine (Senior) ..... 390
Free Time ..... 39
Summer Quarter (11th):* July 2 to September 15, 1951.
Surgery (Senior) including urology and orthopaedics ..... 390
Electives ..... 39* This optional schedule may be made compulsory, and a thirteenth elective quarter maybe added to the senior year.* The clinical instruction is repeated each quarter in order to utilize all the clinicalmaterial and to have small groups of students. Consequently, students may vary the orderof the seventh, eighth, and ninth quarters, and also the order of the tenth, eleventh, andtwelfth quarters. The above schedule merely illustrates the program of one group.Autumn Quarter (12th) :*October 1 to December 15, 1951.
Pediatrics ..... 297
Surgery ..... 41
Neuropsychiatry ..... 41
Preventive Medicine ..... 11
Electives ..... 39
SUMMARY
Total number of hours in curriculum ..... 5,148

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICINE

After the completion of six quarters in the Duke University School of Medicine, Duke University, on the recommendation of the Executive Committee, grants the degree of Bachelor of Science in Medicine to medical students who have completed creditable investigative work, prepared an acceptable report of the investigation, and passed an examination upon the subject of the investigation before an advisory committee. Students who elect to undertake work toward this degree must obtain written permission from the Executive Committee after approval of their program by the head of the department in which the work is to be done. No credit toward this degree is given for additional college work. All students in good standing are encouraged to undertake such investigative work as they may elect with the approval of the head of the department in which they wish to work. All requirements must be completed three months prior to the date on which the B.S. degree is requested.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF MEDICINE

The degree of Doctor of Medicine is conferred on those who have completed, to the satisfaction of the Executive Committee, the twelve quarters of 11-12 weeks each of the curriculum of the School of Medicine, the preclinical and clinical examinations, and have signed an agreement that they will spend at least two years of the succeeding three years in hospital or laboratory work acceptable to the Executive Committee. As a guarantee of this pledge the diploma is deposited in the Treasurer's Office until after the completion of this training. Failure to fulfill this agreement constitutes a waiver of any claim to possession of the diploma and the degree of Doctor of Medicine.

## APPLICATION FOR ADMISSION

Application forms may be obtained by writing to the Committee on Admission, Duke University School of Medicine, Durham, N. C. A check or post office money order for $\$ 5$, payable to Duke University School of Medicine, must accompany each request for an application. This is not refundable. If further information is required after the Committee has studied the completed application, a personal interview with the Committee on Admission or a Regional Representative is arranged for the applicant. The candidate then is notified as soon as possible whether he has been accepted or declined; if accepted, he must send a deposit of $\$ 50$
within two weeks to insure enrollment. This money is applied toward the tuition. The next first-year class will be admitted October 2, 1950. Applications should be submitted by December 1st, of the preceding year. Due to the large number of applicants to all medical schools, candidates are advised to apply to at least four schools. The number of students in each class is limited to 76, but only those students will be accepted who give promise of being a credit to the School and the medical profession. Women are received on the same terms as men. In the event of vacancies, students from other medical schools may be considered for admission to any quarter for which their previous training has fitted them. Each application for advanced standing will be considered upon its own merits.

## REQUIREMENTS FOR ADMISSION

The minimum requirements for admission to this School include approved college credits of not less than ninety semester hours, which shall include adequate preparation in English, mathematics, physics, biology, and chemistry. This preparation should be obtained in college courses of one-year duration, except in English and chemistry. In those subjects. two years are recommended. The second year in English should be chiefly composition and theme writing. The first year of chemistry should be general (inorganic), and the second, analytic and organic chemistry.

The premedical students should be aware of the importance of a wellrounded general education as a preparation for the study of medicine and not limit himself to scientific courses. He would be better advised to secure a knowledge of the principles and a thorough appreciation of the interrelations of the basic sciences than to accumulate credits in many courses. He should learn how to work independently, to observe critically, and to analyze, rather than simply store, the information presented. His choice of studies, beyond those required for admission, should be governed by his own chief interests and by the intellectual stimulus to be derived from the work. His major interest may be in any field, scientific or otherwise, and should provide an opportunity for the demonstration of his real ability. In general, he should avoid courses in subjects which are included in the medical curriculum.

The selection of students is based upon the quality rather than the quantity of preparation and upon demonstrated evidence of personal attributes of intelligence, character, and general fitness for the study and practice of medicine. In considering an applicant many sources of information may be consulted including (1) his curricular and extracurricular college record, (2) carefully prepared, confidential appraisals by teachers who know him personally, (3) his percentile rating on the Medical College Admission Test,* and (4) the results of an interview with members of the Admission Committee or one of its Regional Representatives.

[^50]
## FEES AND EXPENSES

All fees for each quarter are due and payable at the beginning of each quarter, and no student will be admitted to classes until these fees have been paid at the University Treasurer's Office. A fine of $\$ 5.00$ is charged for late registration. No credit will be given for any quarter in which the tuition of $\$ 250$ has not been paid at the Treasurer's Office, whether the work has been done here or elsewhere, except that students who have been permitted by the Curriculum Committee to spend a quarter at another medical school or hospital may subtract the amount of tuition paid at this other medical school or hospital from the $\$ 250$ due here for that quarter.

It is not advisable for a student to attempt outside work to defray his expenses; the results usually are disastrous to his health and academic standing.

## Fees and Expenses

Tuition, per quarter ..................................................... . $\$ 250$
General Fee, per quarter, including Health, Commencement, and Diploma Fees7.50

Athletic Fee, admitting student to all athletic contests held on the University campus, during the quarter (optional) 5.00

Room-rent, per quarter* (estimated) .................................. 58.50
Board, per quarter (estimated) ........................................ 120 to 130
Laundry, per quarter (estimated) ...................................... 10 to 20
Books, per quarter (estimated) ...................................... 25 to 50
National Board of Medical Examiners, Fees $\dagger \$ 20$ (Part I), $\$ 15$
(Part II)
Microscope, ophthalmoscope, otoscope, and other equipment, which
are required of each student and which must conform to rigid standards, may be obtained on a rental basis from the University, per quarter

40 to 60
Estimated total expenses, per month ........................................... 150 to 250

## ANGIER B. DUKE MEMORIAL AND OTHER LOAN FUNDS

The Angier B. Duke Memorial, Incorporated, administers through an advisory committee of the officers of the University a loan fund for students. In addition, the loan fund of the W. K. Kellogg Foundation is available for students who are not financially able to meet their expenses. Medical students, after their third quarter, may apply for loans from these sources. No scholarships are awarded in the School of Medicine. The loan funds are administered in accordance with the following regulations:

1. No loan will be made to a student who violates any of the regulations of the University or who is not doing outstanding classwork.

[^51]2. Loans will be made only to students who are taking full courses of study that lead to a degree, and all loans must be arranged not later than one week after the beginning of a quarter.
3. Every applicant for a loan must present with the application such security as the President of the University may approve, and no money will be advanced before a note with approved security is in the hands of the Treasurer of the University.

## MEDICAL CARE

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated medical students of the University who have paid the quarterly General Fee. This service is under the direction of the Physician in Charge with the co-operation of the Staff of Duke Hospital. It includes hospitalization (limited to thirty days), medical and surgical care, drugs, dressings, x-ray studies, and ward but not special nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes and treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernia, elective surgery, chronic skin conditions, endocrine disturbances, etc., or accidents or illnesses occurring during vacations or while off the campus, are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the patient.

## STUDENT GOVERNMENT

The members of the student body elect an Honor Council, in which each class is represented. It is the duty of the Honor Council to hear all cases involving breaches of conduct on the part of members of the student body. All new students entering the School are required to comply with this system of government.

## MEDICAL MILITARY SCIENCE AND TACTICS

The course consists of instruction in military medicine and military science and tactics. The student receives compensation during the last two years and while at a required summer encampment. Those completing the program will be offered reserve commissions in the Army Medical Corps or the Air Force Medical Corps and will be given priority in the selection of interns for military hospitals. Details of the program, eligibility, compensation, etc., may be obtained by addressing the PMS\&T, Duke University School of Medicine.

## FREDERIC M. HANES FELLOWSHIPS

Starting July 1, 1947, any Duke medical student after his first year is eligible for a leave of absence and a Fellowship of $\$ 125$ per month for full-time research work at Duke with special emphasis in a preclinical subject. These Fellowships will be granted on the recommendation of the Executive Committee, for a period of six months, but may be renewed. Information may be obtained from Dr. D. T. Smith.

## AWARDS TO MEDICAL STUDENTS AND INTERNS

(Additional information may be obtained from the Dean's Office.)

## BORDEN UNDERGRADUATE RESEARCH AWARD IN MEDICINE

An award of $\$ 500$ may be given to the Duke Senior who, in the opinion of the Executive Committee, has performed the best research work during his or her entire medical course, including that done during the preclinical years, and theses for the B.S. degree in Medicine. Applicants should submit their papers, articles or reprints to the Dean at least three months prior to expected date of graduation.

## BAGBY AWARD IN PEDIATRICS

The best Duke Pediatric Intern is eligible for a subscription to the American Journal of the Diseases of Children.

## MOSBY AWARDS

One-year subscriptions to the Journal of Pediatrics, American Journal of Obstetrics and Gynecology, the American Heart Journal, Surgery, American Journal of Syphilis, Gonorrhea, and Veneral Diseases, Journal of Allergy, Journal of Thoracic Surgery, and Journal of Laboratory and Clinical Medicine may be awarded to the best seniors in pediatrics, obstetrics, medicine, surgery, urology, allergy, thoracic surgery and clinical microscopy, respectively.

## DEPARTMENTS OF INSTRUCTION


#### Abstract

Anatomy The required courses of instruction in gross human anatomy, histology, and neurology are scheduled for five and one-half days a week for a period of eighteen weeks during the first semester of the first year. Emphasis is placed upon the study of material in the laboratory. In an attempt to utilize more fully the laboratory time, visual educational methods are employed as fully as possible. These techniques consist of colored motion pictures of demonstration dissections, colored lantern slides, and motion pictures, both embryological and neurological. All of the instruction is designed to be as informal and as nearly individual as possible. General principles and the functional viewpoint of living anatomy are stressed in the hope that the student may be stimulated to secure a working knowledge of anatomy in the broadest sense. Whenever possible, fresh tissues and living cells are made available for examination, and clinical cases exemplifying anatomical principles are studied whenever they are available at appropriate times. Through the co-operation of the Department of Radiology, the students are given an opportunity to study portions of the living human body as revealed by the fluoroscope and roentgenograph. The following elective courses are offered:


Demonstrations in Anatomy. Using dissections already prepared, weekly demonstrations of selected regions or systems are made by the members of the group. Sixth quarter-Two hours per week by arrangement. Second-year students in groups of 10.

Review in Anatomy. During the sixth quarter, a review in anatomy will be presented by the visual education methods outlined above, covering gross and neuro-anatomy, and histology.

Special Neuro-anatomy. Laboratory work and conferences upon selected portions of the human central nervous system. Limited to 6 junior or senior students. Two hours weekly by arrangement.

Brain Modeling. Free-hand reconstruction in clay, from gross and sectioned material, of the chief tracts and nuclei of the human brain stem By arrangement-4 to 10 students.

Experimental Neurology. An operative and laboratory study of the effect of various lesions upon the central and peripheral portions of the nervous system. 4 to 8 junior and senior students by arrangement. Pre-requisite-operative surgery.

Advanced Studies in Anatomy. These may be arranged at any time under the direction of the various members of the staff.

## Biochemistry

The required course in general biochemistry for first-year students is given over a period of eighteen weeks during the second semester. Two lectures, four laboratory periods, and one conference period per week are devoted first to the correlation of the fundamental facts and theories of physical and organic chemistry of proteins, fats, and carbohydrates with the chemistry of living organisms; followed by an intensive study of the chemical aspects of the processes of digestion, absorption, circulation and respiration, acid-base and salt equilibrium, intermediary and over-all metabolism. Each student carries out on himself a fairly complete metabolic balance study involving quantitative analyses of blood and urine.

Since the success of the students in this course is largely determined by the adequacy and ready availability of their premedical training, it is urged that all students review the fundamental laws, theories, and facts of chemistry before the beginning of the course. A circular outlining the topics requiring special attention is sent to all students upon admission. Additional copies of the circular may be obtained from the Dean's Office. An examination to test the state of preparation of the student is given in the beginning of the course in biochemistry.

Electives. In connection with the course given in the sixth quarter for second-year students a survey of pathological and clinical chemistry is presented. In this course are covered abnormalities of protein, fat and carbohydrate metabolism, acid-base regulation, salt and water distribution, nitrogen retention, calcium and phosphorus metabolism, blood and derived bile pigments. The discussion of these topics is based upon case histories, including the records of the Clinical Chemical Laboratory of the Hospital.

Biochemical Research. The facilities of the department, including various types of research equipment and the clinical material of the blood chemistry laboratory, are available to properly qualified students for independent or supervised investigations. Chemical investigations of problems in biochemistry or in conjunction with the clinical and pathological departments may be carried on.

Seminar in Toxicology. A round-table discussion of the homicidal, suicidal and industrial poisons, alcoholism, etc., by arrangement.

Laboratory Detection of Common Poisons. A laboratory course in the properties, detection, and identification of the common poisons. Consideration is given to the types of material to be examined, legal precautions to be taken and interpretation of the findings, by arrangement.

Chemistry of Proteins, Enzymes, and Viruses. A two-hour seminar is given weekly throughout the Autumn, Winter, and Spring Quarters.

Physical Biochemistry. A two-hour lecture course with demonstrations, given weekly in Autumn and Winter Quarters. Given alternately with Chemistry of Proteins, Enzymes and Viruses.

Intermediary Metabolism. A two-hour lecture course and seminar
conducted during Autumn, Winter and Spring Quarters. Given alternately with Seminar in Nutrition.

Advanced Seminar in Nutrition. A two-hour lecture and seminar course in modern nutritional concepts. Given alternately with Intermediary Metabolism.

## Physiology and Pharmacology

The course in medical physiology for first-year students is given over a period of eighteen weeks during the second semester. There are lectures, laboratories, and conferences each week in which are presented the general principles of human physiology and their general application to the practice of medicine. This course runs parallel to biochemistry.

The course in pharmacology is given in the first quarter of the second year. Lectures, laboratories, and conferences deal with the mode of action of drugs in terms of biochemical and physiological processes.

Physiological and Pharmacological Research: The facilities of the department include modern types of research equipment. There are special facilities for research in the field of respiration; circulation; and cellular metabolism. Properly qualified students are permitted to undertake original research in physiology and pharmacology under direction of various members of the staff.

Seminars: Seminars in special fields of physiology are offered to graduate students by various members of the staff.

## Bacteriology, Immunology, and Mycology

Bacteriology, Immunology, and Mycology. The required course is given in the fourth quarter. An intensive study is made of the common bacteria, fungi, and viruses which cause disease in man. The scope of the laboratory course is reasonably wide and acquaints the student with all the methods and procedures employed in bacteriological laboratories. Most of the lecture time is devoted to the immunological and epidemiological aspects of infection. The instruction is designed to give the students a clear conception of: (1) how organisms gain entrance to the body, (2) the type of poisons which they produce, (3) the nature of immune bodies which are produced by the host, and (4) the methods of preventing the disease by active and passive immunization.

Research Bacteriology. Opportunities for original investigations are afforded a few specially qualified students.

Clinical Bacteriology. During their clinical clerkships on medicine (one quarter each for junior and senior classes), the students may perform the routine and special bacteriological work for the patients assigned to them on the teaching service, under the direction of the Department of Bacteriology and in parallel with the Biological Division of the medical clinic.

## Pathology

General Pathology. The course in general pathology is given during the fifth and sixth quarter of the curriculum, following completion of the prerequisite courses in anatomy, physiology, biochemistry and bacteriology. All the work of the class is done with small groups, each under the guidance of a senior instructor and his junior assistant. The histological aspects of the pathological processes are studied coincidentally with the gross anatomical and physiological alterations of the tissues, thus maintaining a unity of conception of disease. As the various pathological processes and the diseases arising from their elaboration are studied by the student groups, assignments involving reports on the study of groups of cases are made to individual students. The group work and the individual student reports are supplemented by weekly conferences involving the class as a whole and dealing with problems presented by current autopsies and with other problems of general importance. Student collaboration in post-mortem studies is required. Cases thus studied are presented by the students before the class under the direction of the staff; this takes the form of a clinical-pathological conference in which each student plays a particular role.

Elective Courses. Special courses in pathology are given to students who have completed the course in general pathology. These courses are available through special arrangement.

Clinical-Pathological Conference. A weekly clinical-pathological conference for advanced study is held on Saturdays. It is open to all persons interested, but is designed especially for the Hospital and Medical School Staff. Attendance by all the students is encouraged but is optional. Miscellaneous weekly pathological conferences dealing with current cases under treatment on the various services are held for instruction of the staffs concerned.

Student Research. Research facilities are provided for competent students. Those who show an interest in investigative work are given every encouragement and are allowed to work independently or in collaboration with the staff.

Postgraduate Instruction. The staff of the department is composed of senior nonresident and junior resident members. The junior resident staff consists of interns, assistant residents, and a resident; all of these are active teachers as well as advanced students of disease. Ample opportunity for the development of a career in the field of pathology is provided for these men.

Medicolegal Instruction. The department works in close cooperation with the local coroner's office. Special medicolegal investigations for others are undertaken from time to time. The department collaborates with other departments of the Schools of Medicine and Law in a course in legal medicine that is given in alternate years.

## Medicine

Introduction to Clinical Medicine and Physical Diagnosis. This course is initiated, in the fifth quarter, by introductory lectures, case discussions, and instruction in the methods of physical examination and history taking. Early in the course students begin work at the bedside in the examination of selected patients. Emphasis throughout is placed on instruction individually or in small groups. The interpretation and pathogenesis of all abnormal findings are stressed. The Departments of Neurology and Psychiatry provide training in neurological and mental examinations. This plan of teaching continues in the sixth quarter, when, in addition, instruction in the more specialized methods of examination is provided through the co-operation of the Departments of Surgery, Obstetrics, Gynecology, and Radiology.

Clinical Microscopy is given in the fifth quarter. The course includes the essentials of hematology and the examination of fresh material, such as urine, stools, spinal fluids, sputum, transudates, and exudates. The most important parasites of man are studied by the use of fresh and museum material. Second-year and senior students are given opportunities for special work and for investigation. This course is supplemented in the Junior and Senior years by Hematology Conferences, which are held weekly, and Ward Rounds, which are held three times weekly.

Cutaneous Medicine and Syphilology. Instruction consisting of lectures, seminars and study and treatment of patients in the out-patient clinics and on the wards is offered each quarter to Junior and Senior students. In addition, an elective course consisting of advanced teaching in clinical dermatology and syphilology is offered to a limited number of students.

Junior and Senior Medicine. The medical students are assigned to the medical wards as clinical clerks for one half of their time, and to the medical out-patient department where they examine patients for the other half of their time.

## Neuropsychiatry

Instruction starts in the first year with an introductory course in psychobiology. In the second year, methods of psychiatric examination and a general presentation of the main reaction types are given. Each third-year student has a two-week clerkship on the psychiatric ward, and in the fourth year patients are worked up in the out-patient clinic for a period of three and a half weeks. A neuropsychiatric amphitheater clinic is held weekly throughout the year for third- and fourth-year students. Elective courses in neuropsychiatric methods of research, neurophysiological aspects of neuropsychiatry, psychosomatic medicine, phychoanalysis in medicine, and principles of psythotherapy are offered to fourth-year students. Students are invited to attend the staff case conferences, the monthly phychosomatic conferences and the conferences on neuropsychiatric disorders of childhood. Emphasis is placed upon the close relationship of psychiatry to other branches of medicine. Internships are
available in neuropsychiatry with the expectation that they will lead to progressively greater interest in the neuropsychiatric problems encountered on all other services in the Hospital. Investigation is encouraged.

## Surgery

General Surgery. In the sixth quarter the students, during their course in physical diagnosis, attend clinics and demonstrations arranged to familiarize them with the techniques of examinations and diagnostic procedures used in general surgery and the surgical specialties. They also have the opportunity in this quarter to become familiar with certain basic principles in aseptic and atraumatic surgery and in isolation technique. The junior students, during their surgical quarter, attend ward rounds in surgery and the surgical specialties, act as clinical clerks on the wards and assist in the operative treatment of patients assigned to them. The surgical students in the senior year attend ward rounds in general surgery and the surgical specialties in the mornings and assist in the surgical out-patient clinics in the afternoon. Also in groups of two for the proportionate time available they are assigned to the emergency division of the out-patient clinic where they assist in the diagnosis and care of urgent conditions.

A six days' concentrated course of training in the administration of anesthetic agents is open to twenty-four medical students each school quarter. Properly qualified students observe and administer anesthesia under direct supervision of staff anesthetists.

Otolaryngological Division. An introductory course of instruction in the use of otolaryngological instruments, with a review of normal anatomy, is given to second-year students in the sixth quarter. Clinics during one quarter of alternating years are given to junior and senior students; students during their pediatric quarter work in the otolaryngological outpatient clinic as assigned. Ward rounds are held separately each week for third- and fourth-year students. Patients are assigned to junior students during the surgical quarter.

Ophthalmological Division. During the sixth quarter second-year students receive instruction in elementary ophthalmology. During the senior pediatric quarter the students work in the ophthalmological out-patient clinic as assigned, and assist in the study and treatment of eye diseases. Especial emphasis is placed on the underlying medical and surgical conditions. Each student follows throughout his time in the out-patient clinic all patients assigned to him. For those who manifest an unusual interest in this specialty, provision will be made for more advanced work. Throughout the senior surgical quarter the students attend ophthalmological ward rounds for one hour each week. During either their third or fourth academic year clinics covering the more general neuro-ophthalmological and medical problems are given.

Orthopaedic Division. In the sixth quarter an introductory course is given. During the surgical quarters the junior and senior students attend
weekly ward rounds of one hour each in orthopaedics and fractures. Amphitheater clinics are held every third quarter. Students in their senior surgical quarter are assigned in rotation to the orthopaedic out-patient clinic. These students also attend orthopaedic staff rounds at $5: 30$ P.M. Mondays through Fridays. An elective course in the treatment of fractures, limited to three students, is offered during the junior and senior surgical quarters. An elective course in physical therapy is also offered Juring these quarters. Arrangements may be made for students who so desire to do research or experimental work. They may also attend the state orthopaedic clinics as held.

Urologic Division. In the sixth quarter, second-year students are given a course of lectures and practical demonstrations in urologic physical diagnosis in the normal individual student. Ward rounds on urologic patients are given every Saturday at 8:30 A.M. for third- and fourth-year students in their surgical quarter. Small groups are selected from the senior surgical group of students and assigned in rotation to the urologic out-patient clinic. During one quarter of the year, urologic clinics are given weekly for the junior and senior classes. These clinics deal with the affections of the male and female urinary tract and of the male genital tract. Clinics for urethroscopic and cystoscopic investigation and for the more technical methods of urologic diagnosis and treatment are held Monday, Wednesday, and Thursday from 1:30 to 5:00 P.M. and Tuesdays and Thursdays from 9:30 A.M. to 12:30 P.M. throughout the year. X-ray conferences on all urologic cases are held Tuesday, Thursday, and Saturday mornings from $8: 30$ to $9: 30$ and are followed by staff rounds. Three senior students may select one of these cystoscopic clinics, x-ray conferences, and staff rounds as an elective. The Urologic Journal Club meets each Monday from 4:30 to 6:30 P.M., and members of the staff review their respectively assigned journals. Interested students are welcome.

Neurosurgical Division. During all four quarters, separate weekly ward rounds are held for the junior and senior surgical groups. Emphasis in these rounds is placed upon the recognition of neurosurgical problems, followed by observation of the operative and post-operative procedures. Weekly x-ray and pathological conferences are held, and these may be attended by interested individuals.

Division of Plastic Surgery. Weekly ward rounds are given to familiarize both third- and fourth-year students with the principles and practice of plastic and oral surgery. Ward patients are assigned to the third-year surgical students and the fourth-year surgical students work up patients in the out-patient clinic. Each Tuesday and Thursday afternoon, an opportunity is afforded interested students to observe moulage and cast work, cosmetic restoration of color, the making of prosthetic appliances, etc. This work is done under the direction of Mr. Elon H. Clark, of the Department of Medical Illustration.

Division of Thoracic Surgery. During the academic year ward rounds, lectures and demonstrations are held to acquaint the third- and fourth-year
students with the principles and practice of surgery of the chest. The anatomy and physiology of the respiration and circulation are reviewed and their application to thoracic surgery is stressed. X-ray diagnosis is emphasized and frequent pathology conferences are held to give the students a well-rounded knowledge of the surgical diseases of the chest.

Division of Anesthesiology. Junior students, during their surgical quarter, are given a series of eleven lectures by the medical anesthesiologists. Following a brief history of anesthetic drugs, the response of the body to such drugs is discussed. The physiological basis of the reactions encountered in the operating room is stressed and the rational for choice of agents for various patients is presented. A six days' concentrated course of training in the administration of anesthetic agents is open to twenty-four senior medical students each school quarter. These students observe and administer anesthetics under the supervision of staff anesthetists.

Dentistry. Second-year students, in the sixth quarter, are instructed in the principles of dentistry.

## Radiology

The student teaching schedule in roentgenology consists of a course in roentgen diagnosis and a course in therapeutic radiology. The first is offered during each scholastic quarter on Tuesday and Thursday of each week. The fundamental physics of x-ray is discussed, with the chief emphasis being placed upon the anatomical, pathological and physiological bases for the interpretation of x-ray films. The course is conducted in seminar fashion and no formal lectures are given. The students participate in and lead discussions with the instructor serving as the moderator. An attempt is made to acquaint the student with the aids of roentgenology in diagnostic problems. The correct use of x-rays in diagnosis is stressed.

Therapeutic radiology is given one hour weekly during each quarter. At these sessions the general problem of the treatment of benign, inflammatory and malignant lesions by x-ray and radium is discussed and the accepted views of the combination of these therapeutic agents with surgery is stressed. Representative cases are demonstrated, and the fol-low-up results are particularly stressed.

A limited number of senior students are permitted to attend routine film reading sessions in the Department of Radiology. They are also instructed in the fundamentals of fluoroscopic examinations and shown the many pitfalls of the inexperienced fluoroscopist.

A number of conferences with the resident house staff are conducted throughout the year. Each alternate Monday from 8:30 to 9:30 A.M. a session with the ear, nose and throat staff is held, during which the roentgen and operative findings are correlated. Each Thursday from $8: 30$ to $9: 30$ A.M. a pediatric conference is held at which current cases are discussed and clinical and x-ray findings are given. On alternate

Wednesdays from 5:00 to 6:00 P.M. conferences are held with the surgical and medical house staffs and all cases with significant x-rays are presented for general discussion. The neurosurgical staff meets with members of the x-ray department every other Tuesday afternoon from 4:00 to $5: 00$ P.M. for a discussion of all cases that have been studied by the two departments.

Each Thursday afternoon the conference is held by the members of the x-ray staff and visiting radiologists. Difficult cases are brought up for discussion and diagnosis.

## Obstetrics and Gynecology

Second-year students receive seventeen hours of instruction in the fundamentals of obstetrics and gynecology during their course in physical diagnosis in the sixth quarter. Clinics and demonstrations for junior and senior students are held on Saturdays at 10:30 A.M. during the Autumn, Winter, and Spring Quarters and on Mondays at $11: 30$ A.M. in the Summer Quarter. During one quarter of the junior year each group of students attends ward rounds at 8:30 A.M. on Mondays, Wednesdays, and Saturdays; preoperative conferences at $8: 30$ A.M. on Tuesdays and Fridays; and the out-patient clinic at $1: 30$ P.M. five times weekly, for nine weeks. They also attend an endocrine clinic once a week for nine weeks during the junior year. The students also spend part of each day on the wards. Senior students, during their surgical quarter, have ward rounds on obstetrics and gynecology on Saturdays at 8:30 A.M.

Elective courses in the diagnosis and treatment of obstetric and gynecological conditions are offered for junior and senior students.

## Pediatrics

Junior and senior students, during their medical quarters, have pediatric ward rounds on Saturdays, from 8:30 to 9:30 A.M. These junior students receive instruction in introductory pediatrics and the physical diagnosis of infants and children. The senior students are divided into three groups, each of which spends one quarter in pediatrics. During this quarter they are assigned daily as clinical clerks on the children's ward, nursery, and pediatric out-patient clinic, attend ward rounds at 8:30 A.M. Mondays and Fridays and 9:30 A.M. on Wednesdays; attend the staff conference at 8:30 A.M. on Wednesdays; attend child guidance clinic each Thursday at 11:00 A.M.; attend conference on pediatric roentgenologv each Wednesday at 11:00 A.M.; are instructed in the practical nursing of infants by Miss Sherwood on Fridays at 9:30 A.M.; and are taught the preparation of diets for infants and children by the Professor of Dietetics. Each student attends infant feeding clinics on Fridays during this quarter. Students may attend, on voluntary basis, the special pediatric clinicsnephritis, cardiac, allergy, and convulsive disorders. Elective courses: Senior students may spend two weeks in general practice with Instructors in General Practice. In addition to the six pediatric internships, there are four in which six months each are spent in obstetrics and pediatrics for
graduates who plan to enter general practice. Seven assistant residencies and one residency are available.

## Preventive Medicine and Public Health

Public Health. This course consists of two three-hour periods weekly throughout the fifth quarter and is designed to acquaint the student with the general principles of environmental sanitation and the various techniques used by official and voluntary agencies in their efforts to improve health in a community. The laboratory work consists of practical exercises in such subjects as water and milk bacteriology, vital statistics, epidemiology, etc., some of the periods being reserved for field trips so that the student can observe plants in actual operation.

Medical Parasitology is a lecture and laboratory course given one morning a week in the fourth quarter. Most of the emphasis is placed on the symptomatology, diagnosis and therapy of the various helminthic and protozoal diseases in man; several periods are devoted to medical entomology.

Elementary Biostatistics. This course consists of one lecture and one two-hour laboratory period a week throughout the fourth quarter. Instruction is given in methods of tabulation and graphing of medical data and the interpretation of such data. The methods of testing for statistical significance are illustrated by problems taken from the medical literature.

Preventive Medicine. This course is given in the senior year and consists of three one-hour lectures or clinics each week throughout the autumn quarter. Emphasis is placed upon the principles of Preventive Medicine as they can be applied by the physician in private practice. By the case method of presentation, the student has the opportunity of learning how the cooperation of health and social organizations can be of assistance to the physician in his management of the individual patient.

## Legal Medicine and Toxicology

This course embraces a discussion of the relation of physicians to legal criminal procedures, jurisdiction of the coroner and medical examiner, laws governing the dead human body, personal identity of the living and the dead, the medicolegal autopsy, traumatic injuries and fractures, rape, abortion, asphyxial death, homicidal, suicidal, and industrial poisoning, alcoholism, the examination of blood, stains, fibers, and the detection of malingering. The course is open to junior and senior students and is given in alternate years. Discussions of medicolegal problems for the house staff and senior students, and joint conferences of the medical and law students also are held.

## UNDERGRADUATE CANCER TRAINING PROGRAM

(Supported by a grant in aid from the U. S. Public Health Service.)
During the senior year, the students in surgery participate in the teaching sessions held by the Undergraduate Cancer Training Program staff and the senior staff. These sessions are held five days a week, and an
attempt is made to cover systematically the various regions in the body in respect to the tumors which arise in them. The viewpoints of the clinician, the radiologist, and the pathologist are presented and correlated at this time. The students themselves prepare seminars on theoretical subjects which have a direct bearing on the problem of neoplasia in general. This portion of the program is repeated each quarter throughout the year.

In addition, the Undergraduate Cancer Training Program staff participates in the teaching of neoplasia to the sophomore students. This is done as a supplementary program to the students as they are being taught the principles of neoplastic disease by the Department of Pathology. New material is presented to them and here the clinicopathological approach to the problem of neoplasia has special emphasis. In this phase of the program it has not been possible to cover the entire body but selected regions are utilized.

## SCHOOL OF NURSING

The next class of students will be admitted to the Duke University School of Nursing on September 15, 1950, but applications will be considered at any time. Information about the entrance and other requirements, length of course, tuition fees, application forms and bulletins may be obtained by writing to the Dean of the School of Nursing, Box 3714, Duke Hospital, Durham, N. C. Duke University offers a combined academic-professional program leading to the degree of Bachelor of Art, Bachelor of Science or Bachelor of Science in Nursing Education. Information as to this program may be secured from the same source.

## SCHOOL OF DIETETICS

In addition to the dietetic training of the students of the Schools of Medicine and Nursing, fourteen dietetic interns may be admitted to the School of Dietetics and given the certificate of graduate dietitian after the successful completion of one year's internship. The entrance requirements are a Bachelor's degree from an approved university or college, with majors in nutrition and institutional management, and the courses in chemistry, biology, social science, and education recommended by the American Dietetic Association. The course for dietetic interns provides instruction in all phases of hospital and institutional dietetics, including experience from the buying and storage of food to its service to the patients according to the physician's orders. Interns may apply some of their time in securing graduate credit.

The course starts the first of September. All students pay a registration fee of $\$ 10$ at the time of appointment. Additional fees are charged if the intern takes additional work in the University for an advanced credit. Maintenance is provided. More detailed information and application blanks may be obtained from the Professor of Dietetics, Duke University School of Dietetics, Durham, N. C.

## STAFF OF DUKE HOSPITAL

## INTERNSHIPS AND RESIDENCIES

Internships of twelve months' duration with room, board, laundry, and uniforms furnished, but without salary, are available in medicine, surgery (including general surgery, urology, orthopaedics, plastic, anesthesia, thoracic, and neuro-surgery), orthopaedics, urology, otolaryngologyophthalmology, dentistry, obstetrics and gynecology, endocrinology, pediatrics, neuropsychiatry, and pathology commencing July first.

Application blanks for all internships may be obtained by writing to the Superintendent, Duke Hospital, Durham, N. C. Graduates of any Class A medical school are eligible for internships.

After the completion of an internship in Duke Hospital or in another acceptable hospital, a certain number may be appointed as assistant residents in medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, neurology, dermatology, orthopaedics, urology, otolaryngology, ophthalmology, roentgenology, anesthesiology, pathology, biochemistry, or the Student Health Service or as fellows of the Private Diagnostic Clinic, at a salary of $\$ 250$ to $\$ 500$ per year with maintenance, and eventually may be promoted to the residency in the various departments or subdepartments of the Hospital at an annual salary of $\$ 500$ to $\$ 1,000$ with maintenance. Applications should be made to the head of the department concerned.

The Hospital and School of Medicine are an integral part of the Duke University campus, and its educational, recreational, and athletic facilities are available for the Resident Staff.

The present Resident Staff of one hundred nine consists of a resident, twelve assistant residents, and nine interns in medicine; a resident and two assistant residents in dermatology and syphilology; an assistant resident in neurology; five assistant residents in neuropsychiatry; a resident, five assistant residents, and thirteen interns in surgery (the five assistant residents are assigned in rotation to general surgery, plastic, thoracic, neuro-surgery, and pathology) ; a resident, two assistant residents, and one intern in otolaryngology and ophthalmology ; a resident and one assistant resident in orthopaedics; a resident and one assistant resident in urology; a resident and one assistant resident in plastic surgery; a resident, four assistant residents, and three interns in obstetrics and gynecology; a resident and one intern in endocrinology; a resident, three assistant residents, and eight interns in pediatrics; three interns in obstetrics and pediatrics; two residents and four assistant residents in radiology; a resident, two assistant residents, and three interns in pathology; four assistant residents in anesthesiology, and eight in hospital administration.

## POSTGRADUATE STUDY

Graduates in medicine are welcomed at the various clinics and demonstrations in medicine, surgery, obstetrics, and other specialties, which are held from 9:30 A.M. to 12:30 P.M. each Saturday, as well as at the daily
ward-rounds in the mornings and the out-patient clinics in the afternoons. They can start at any time and remain as long as they wish. Additional special work in any department for a period of not less than three months may be arranged by consultation with the head of the department concerned. A certain number of residencies also are available at Duke Hospital in medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, neurology, dermatology, orthopaedics, urology, otolaryngology, ophthalmology, roentgenology, pathology, and biochemistry. Further information can be obtained by writing to the Dean.

Returning veterans are requested to register on arrival at the Dean's office, Room M133, and with Miss Barbara L. Perkins, 302 Administration, who will assist them in obtaining the benefits of the G. I. Bill of Rights, which will provide tuition and $\$ 75$ per month for maintenance ( $\$ 105$ if one dependent, $\$ 120$ if more than one dependent).

## SCHOOL OF HOSPITAL ADMINISTRATION

Eight internships in hospital administration leading to a certificate will be available to university graduates whose character, tact, and ability for leadership are good, and whose academic standing is high. These internships are of two years' duration and pay a small salary in addition to room, board, and laundry. Vacations of two weeks are allowed during each year of internship.

The instruction is practical rather than theoretical in emphasis. The interns are rotated through six different assistant administrative positions in the Hospital. There is also a weekly seminar lasting two hours.

During these two or three years, the interns may also register in the Graduate School of Duke University, and receive the A.M. degree after the successful completion of a thesis and twenty-four semester hours of university courses in various fields. This additional work will add one year to the program. Further information may be obtained by writing to the Superintendent, Duke Hospital, Durham, N. C.

## MEDICAL SOCIAL SERVICE

Medical social case-work service is offered to patients referred by personnel within the Hospital, and by interested individuals and health and welfare agencies outside of the Hospital. Assistance and advice in connection with the problems presented are available to the members of the Staff and referring agencies.

The division also assists in teaching social and environmental aspects of illness and medical care through consultations and lectures to the students of the Schools of Medicine and Nursing. In addition, it serves as an agency for supervised field work for students of the Graduate School of the University of North Carolina. Further information concerning training for advanced students may be obtained from the Social Service Division, Duke Hospital, Durham, N. C.

## ANESTHESIOLOGY

A two- to three-year residency training program in anesthesiology is available for physicians who are graduates of a Class A medical school and who have completed an internship in an accredited hospital.

Courses available to graduate nurses include an eighteen months' course for nurses who have had no experience in anesthesia, and a nine to twelve months' course for nurses with five years of practical experience who have not had formal training in the specialty. Instruction embraces the theoretical aspects and clinical application of all drugs and techniques in accepted usage. The program is divided into quarters. The major part of the basic theoretical instruction is given during the first three quarters. After a pre-clinical period of eight weeks, clinical practice runs parallel with the theoretical program. One class is accepted annually and enrolled on January 15. All appointments for the current year are made by September 1 of the preceding year. Graduates of these courses are eligible to take the examination given by the American Association of Nurse Anesthetists. Tuition is $\$ 150.00$ and $\$ 100.00$ respectively. Additional information concerning these programs for nurses may be obtained from Mary H. Snively, R.N., Box 3094, Duke Hospital, Durham, North Carolina.

## COURSE IN LABORATORY TECHNIQUE

The course in laboratory technique, which includes training in blood chemistry, clinical microscopy, bacteriology, serology, basal metabolism, etc., is approved by the Registry of Technicians of the American Society of Clinical Pathology. The course lasts eighteen months, the next class starting September 22, 1950. The registration fee is $\$ 75.00$, and there are no additional charges except for breakage. The students live in town at their own expense. A minimum of two years of approved college work is required. Information as to the specific requirements may be obtained from Dr. Haywood M. Taylor, Duke Hospital, Durham, North Carolina.

## COURSE IN X-RAY TECHNOLOGY

Applicants for training in x-ray technology should satisfy one of the following requirements: A.B. or B.S. degree, or Diploma of Graduate Nurse, or special students without either of these requirements who might be appointed by the committee. The course is of twelve months' duration and the following subjects are presented: elementary anatomy and physiology, physics, x-ray equipment, dark room chemistry and procedure, x-ray technics and general office routine. Examination is given at the end of the first quarter and a grade of 75 must be made to continue the course. Two students are appointed in October and two in March each year. The tuition fee is $\$ 25$. No maintenance is provided. This course is approved by the American Council of Medical Education, American Medical Association, the American College of Radiology and the American Registry of Radiological Technicians.

## PHYSICAL THERAPY

A fifteen months' course in physical therapy is offered for men and women graduates of accredited schools of physical education and nursing, and for selected applicants who have completed ninety college semester hours, including credit in the biological sciences, physics, chemistry and psychology. The curriculum provides instruction in anatomy, physiology, kinesiology, pathology, psychology, electrotherapy, neuropsychiatry, therapeutic exercise and the principles of rehabilitation. Instruction in the clinical subjects is given by members of the faculty of the School of Medicine. Clinical training will be given at Duke Hospital and affiliated institutions and includes supervision of orthopaedic problems in the Durham Public Schools. The course starts in October. The tuition fee is $\$ 350$ plus $\$ 35$ for medical fee, and does not include maintenance. A certificate is awarded upon successful completion of the course. Eighteen hours of credit may be earned toward the baccalaureate degree. In addition to the training of physical therapy students, courses are given to the students of the Schools of Medicine and Nursing. Further information and application blanks may be obtained from the Division of Physical Therapy, Duke Hospital, Durham, North Carolina.

## RECORD LIBRARY

A course for the training of medical record librarians, which has been given full approval by the American Association of Medical Record Librarians and the American Medical Association, includes all details of the theory and practice of clinical record library methods. The length of the training is twelve months. The tuition fee is $\$ 175.00$ and does not include maintenance. Applications may be made to the Medical Record Librarian, Duke Hospital, Durham, N. C.

## DIVISION OF MEDICAL ART AND ILLUSTRATION

The primary function of this Division is to produce visual clinical records for supplementation of case histories, visual aids for teaching, illustrations for publication, and accurate drawings of conditions in which draftsmanship, knowledge of subject and imagination are the prime requisites. Requests for this work may emanate from any of the medical or allied sciences. Other services offered are: the production of exhibits, casts, models, prosthetic appliances, tantalum plates, charts, graphs, mechanical drawings, clinical photographs (still), motion pictures, photomicrography, fundus photography, copying, lantern slides, prints in black and white and color and special problems in infra-red.

## THE SCHOOL OF NURSING

Fall Semester, 1950, begins September 21 ;
Spring Semester, 1951, begins January 31.
'1949-1950
ANNOUNCEMENTS FOR 1950-1951

## THE SCHOOL OF NURSING

## GENERAL INFORMATION

The School of Nursing of Duke University was established in 1931 in association with the School of Medicine of the University and Duke Hospital through the gift of the late James B. Duke. The administrator of the School of Nursing is a member of the Executive Committee of the Medical School, Nursing School and Duke Hospital which promotes the common interests of the three organizations.

The central aim of the educational program is to select young women with aptitudes, interests and personal characteristics needed in nursing, and to provide an educational program enabling them to develop skills, knowledge and attitudes needed for professional nursing service in the community and for maximum personal development.

This program is designed to prepare nurses for:

1. General duty in hospitals.
2. Private duty in hospitals and homes.
3. First level positions under supervision in public health nursing agencies.

## FACILITIES FOR INSTRUCTION

The facilities for instruction include the facilities for instruction available in the undergraduate, professional and graduate schools and colleges of Duke University and the clinical facilities of Duke Hospital.

## CLINICAL FACILITIES

Duke Hospital has every modern convenience for the diagnosis, proper nursing care, welfare and comfort of the patients including 604 hospital beds, a large public out-patient department, a large private diagnostic clinic and offices and examining rooms for the doctors who serve on the staff of the hospital. There are very close relationships established between the hospital and the Health Departments in North Carolina. A system for referral of patients to the nursing service of the Health Departments has been established between the supervisors of the nursing service in the hospital and the nursing service of the Health Department.

## LIBRARIES

The reference library of 2,298 books and periodicals of special interest to students majoring in nursing is located in Baker House. Students may use the general libraries on the East and West Campuses and the Duke Hospital Library. A collection of visual aids including films is being assembled with an index in the library for the use of students and instructors in the School of Nursing.

## APPLICATION FOR ADMISSION

Applications for admission to the School of Nursing should be made
to the Committee on Admissions of the School of Nursing, Box 3714 Duke Hospital, Durham, N. C. Application forms will be sent on request.

## ADMISSION

Since the profession of nursing requires women with a high sense of integrity and responsibility, with culture and intelligence whose predominant interest is service, the Admissions Committee will select the applicants who, in its opinion, seem best qualified for nursing. The Admissions Committee must have on file the records indicating the fulfillment of the following requirements before considering an applicant.

1. Graduation from high school with sixteen units of credit as indicated.
2. One year of college with the semester hours of credit as indicated.
3. Aptitude and achievement tests.
4. Three recommendations.
5. Interviews.
6. Physical and dental examination.

## SPECIFIC REQUIREMENTS

I. An applicant for admission to the School of Nursing must present at least sixteen acceptable units of secondary school credit. A unit of credit is allowed for a course of study pursued throughout an academic year at an accredited secondary school, if the course has been completed satisfactorily.

1. Twelve units must be in English, foreign language, history and social studies, mathematics, and natural science; and must include:
(a) English-3 units.
(b) Algebra-1 unit.
(c) Plane geometry-1 unit.
2. Four units may be in the subjects listed above or from those in the following table. The units indicate the maximum amount of credit acceptable in each subject:
Subject Units Subject Units

Agriculture ....................... 2 Mechanical Drawing ............... 2
Art ................................ 1 Music ................................. 1
Commercial Subjects .............. 3 Physical Geography ................ 1
Economics ......................... 1 Sociology ............................... 1
Household Economics ............. 2 Woodworking, Machine Work .... 2
Other units offered in subjects not included in this list will be considered for acceptance on the basis of full statements transmitted with the applicant's record from the school recommending her.

If students make satisfactory scores on a scholastic aptitude test, the above requirements will not be rigidly adhered to by the School of Nursing.
II. One year of college work is required for admission to the Duke University School of Nursing. This work may be taken at any accredited college or university and should include the following courses:

## S.H.

English .................................................... . . 6
Chemistry .................................................. 8
Zoology or Biology .................................. . . 4
History, Economics or Political Science .......... 6
Electives (Foreign Language, Literature, Mathematics, Religion, History, Appreciation of Art or Music and Physical Education)

8
Students who wish to complete requirements for the degree of Bachelor of Arts a fter graduation from the School of Nursing should take six credits of foreign language during the Freshman year. Those who submit two or more units of one language in high school are advised to continue with that language in college. If the college will not allow two sciences in the first year, the one not taken in high school should be selected.
III. Satisfactory scores on a battery of aptitude and achievement tests.
IV. Three recommendations, two of which must come from recent high school or college instructors.
V. Interviews with two members of the Duke University School of Nursing faculty, whenever possible.
VI. Records of recent physical and dental examination.

A physical examination at Duke Hospital is required for final acceptance into the School of Nursing. This examination includes a chest x-ray and a tuberculin test.

Students who attend college more than one year before entering the School of Nursing are advised to take the following courses:

## S.H.

Literature ............................................ 6
Psychology ........................................... . . . 3-6
Sociology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3-6
Religion, Ethics or Philosophy ................. 6
Language (second year of same language taken in first year) 6
Electives (Physical Education) .................. 2-8
FEES AND EXPENSES

| Tuition | First Year \$100.00 | Second Year $\$ 100.00$ | Third Year $\$ 100.00$ |
| :---: | :---: | :---: | :---: |
| Books (Estimated) | .. 40.00 | 10.00 | 10.00 |
| Pre-entrance tests | 5.00 |  |  |
| Activities | 15.00 | 15.00 | 15.00 |
| Graduation |  |  | 3.00 |
| Diploma |  |  | 5.00 |
| Degree . |  |  | 5.00 |
| Cap and Gown Rental |  |  | 1.25 |
| Room Key Deposit | 1.00 |  |  |
| Uniforms ........ | 84.20 |  |  |
|  | \$245.20 | \$125.00 | \$139.25 |

The fee for pre-entrance tests and health examination is payable at time testing is done. Checks should be made payable to Duke University.

No student is permitted to attend classes until she has complied with all regulations concerning registration and payment of bills for the term.

Arrangements for purchase of uniforms are made with the uniform company late in September. At that time, $\$ 68.70$ of the cost of the uniforms is paid.

A fee for public health nursing will be added in the Senior year when arrangements for the experience are completed.

Duke Hospital provides board, room and laundry for students in the School of Nursing. The rooms in the residence are fully equipped. Twenty-five dollars of the tuition fee is payable upon receipt of the acceptance letter, the balance is due upon admission.

Fees for courses which require registration in the Woman's College are charged upon the basis of hours of credit.

## LOAN FUND AND SCHOLARSHIP

Through the generosity of the Kellogg Foundation, loan funds sufficient to cover tuition costs are available to students who demonstrate a real need and who are qualified. There are also a limited number of tuition scholarships for exceptionally qualified students.

Residents of North Carolina and others upon recommendation may secure loans from the Medical Care Commission of North Carolina. The conditions under which these loans are granted will be supplied upon inquiry addressed to the Dean of the School of Nursing.

## RESIDENCES

Students are housed in the fireproof residences located near the hospital. Rooms are adequately equipped with blankets and linen, making further provision by the student unnecessary. Life in the dormitories is under the regulations established by the Student Government Association with advice from the faculty.

## HEALTH REGULATIONS AND PHYSICAL EDUCATION

The School has general supervision of the student's health. All physical defects, such as defective vision, dental needs, etc., must be corrected before admission to the School. The student must have been immunized against typhoid fever and vaccinated against smallpox during the current year. All students are required to pass a physical examination before admission to the School of Nursing and at intervals thereafter, a final examination being given at the end of the course. Students whose condition needs further observation may be admitted tentatively, but must cancel their application if later findings prove them physically unfit for nursing. Students about whom it is decided that tonsillectomy or other surgery was indicated before admission to the School, or students under care of a private physician for some minor complaint which does not interfere with the practice of nursing but requires hospitalization and surgery, may be asked to pay for this care by the Hospital.

Students are allowed two weeks' sick leave during the three-year course.

## ACTIVITIES OFFERED

Swimming, basketball and softball are offered as student activities, in addition to social activities. First-year students are required to elect either swimming or basketball.

## READMISSION

Students who are absent for more than one month on account of illness or have leave of absence may be readmitted to the same or a succeeding class at the discretion of the faculty.

## LEAVE OF ABSENCE

Students are not expected to leave the School because of family or other personal reasons. Absence from the School is granted only in extreme cases. If a student is obliged to be away for a period exceeding four weeks, the Dean of the School of Nursing will determine the date of her return and the question of resuming her place in her original class.

## DISMISSAL

The faculty of the School of Nursing may, at any time, place a student on probation or release her from the School if, in its opinion, she does not have the qualifications necessary for the profession.

## THE DUKE UNIVERSITY SCHOOL OF NURSING ALUMNAE ASSOCIATION

The Duke University School of Nursing Alumnae Association was formed for the purpose of rendering mutual help and improvement in professional work, and for the promotion of good fellowship among the graduates of the School.

The Alumnae Association co-operates with the North Carolina State Nurses' Association and the American Nurses' Association in working for the professional and educational advancement of nursing.

Alumnae Notes, a quarterly news publication, furnishes items of interest to the members of the Association.

## SANTA FILOMENA

Santa Filomena, Senior Honorary of the Duke University School of Nursing, was organized in April, 1944, under the sponsorship of the 1943 class. The purpose of this organization is to recognize achievement and promote leadership.

The members are chosen from the rising Senior Class and are publicly tapped by the old members at the first meeting of the SGA in their Senior year, the number chosen not exceeding nine or being less than five. Each candidate must show recognized qualities of leadership or must have made some contribution toward the betterment of the School of Nursing. She must have demonstrated superior nursing abilities and her scholastic record must be eighty or above throughout her first two years.

## AWARDS TO NURSES

## BAGBY AWARD IN PEDIATRICS

The Bagby Award in Pediatrics (a subscription to the American Journal of Nursing) is given at graduation to the best Duke student nurse in pediatrics.

## THE FLORENCE NIGHTINGALE PLAQUE

The Florence Nightingale plaque is awarded to a graduating student by the Alumnae Association for leadership, scholarship and nursing skill.

## THE MOSELEY AWARD

The Moseley Award of $\$ 25.00$ is given to the student in the senior class who has shown the most skill in Nursing Arts throughout her program in the School of Nursing.

## PROGRAM OF THE SCHOOL OF NURSING

The program of the School of Nursing covers a period of three calendar years with one month of vacation each year. At the completion of this program, the student receives the diploma in nursing and is then eligible for the examinations given by the North Carolina State Board of Nurse Examiners. The School is fully approved by the North Carolina Joint Committee on Standardization.

## COMBINED ACADEMIC-PROFESSIONAL PROGRAMS IN NURSING

Students who have been graduated from the Duke University School of Nursing with an average grade of "C" or better may, upon recommendation by the Dean of the School of Nursing, apply for admission to the Woman's College of Duke University. If accepted she may obtain the degree of Bachelor of Arts or Bachelor of Science from Duke University by fulfilling the requirements for the degree of choice. Forty semester hours of credit toward these degrees are given for the three-year nursing program or toward the degree of Bachelor of Science in Nursing Education for those showing ability in teaching. See pages 30-31.

The program of studies leading to the degree of Bachelor of Arts is as follows:

1. Minimum requirement of the Undergraduate College of Arts and Science:

2. Basic nursing program ..... 40
3. At least twelve semester hours in one department other than nursing in courses not primarily open to Freshmen ..... 12
4. Electives ..... 24-36

In addition to twelve semester hours in one department, the program must include 24 semester hours in courses numbered 100 or above.

A total of 124 semester hours credit and 124 quality points is required for graduation.

Students who have been graduated from the Duke University School of Nursing may obtain the degree of Bachelor of Science by fulfilling all requirements for that degree. Forty semester hours of credit toward this degree are given for the three-year program in the School of Nursing. The requirements for this degree may be found in the bulletin of the undergraduate colleges.

## ADMISSION WITH ADVANCED STANDING IN THE WOMAN'S COLLEGE

Students from the School of Nursing who are admitted to the Woman's College may receive credit for college courses taken prior to their admission to the School of Nursing provided they meet the requirements listed below.

A student enrolling for the Bachelor's degree, who transfers from a junior college or from a four-year college not affiliated with the Southern Association or a similar regional association, is under all circumstances required to continue, for at least one semester in the Woman's College, the foreign language she presents for minimum graduation requirements. Note: No foreign language is required for the B.S. in Nursing Education.

Credit for courses in science offered for advanced standing by a student transferring from a junior college or from a four-year college not affiliated with the Southern Association or a similar regional association will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters work in residence. To validate provisional credits the student must earn at least an average of " $C$ " in a normal load of work. Transfer grades of "C" or above are rated at one quality point per credit hour when validated.

The maximum amount of credit acceptable from a junior college is sixty semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and not more than six semester hours credit is allowed for extension courses. Any extension work accepted must be specifically approved by the Dean of the College.

## COURSES OF INSTRUCTION



## DIVISION OF NURSING EDUCATION

## ADVANCED PROFESSIONAL PROGRAMS

A Division of Nursing Education was established in December, 1944, as an integral part of the Department of Education of Duke University. At the present time, qualified graduate nurses may work toward the degree of Bachelor of Science in Nursing Education, or toward the degree of Master of Education with a major in Nursing Education.

The primary objective of the degree program for graduate nurses is to prepare qualified individuals for teaching and supervisory positions in schools of nursing and in nursing service agencies. Facilities for instruction include the undergraduate colleges of Duke University, the School of Nursing, the Medical School and Duke Hospital.

## I. DEGREE OF BACHELOR OF SCIENCE IN NURSING EDUCATION

## Admission

A student who wishes to work toward the degree of Bachelor of Science in Nursing Education must apply for admission to the Woman's College of Duke University. To be eligible for admission as a candidate for this degree she must meet the following requirements:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit. Twelve units must be in English, foreign language, history and social studies, mathematics and natural science.
Three units may be in subjects listed above or in such subjects as art, commercial subjects, household economics, or music.
Students who have satisfactorily completed one or more years of college work in an approved college or university must also fulfill the requirements listed above with respect to high school credit, must present official transcripts of all work done in other institutions, and must have honorable dismissal from each institution previously attended.
2. Graduation from an approved school of nursing which provides satisfactory preparation in medical, surgical, pediatric, and obstetric nursing, as a minimum.
3. Satisfactory scores on specified tests.
4. Satisfactory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

Credit for 120 semester hours (exclusive of physical education) on which an average grade of at least " C " is made is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. The program of studies leading to this degree must include:
Outline of Program

1. Minimum general education requirements (may be satisfied at DukeUniversity or at any accredited college or university).
S.H.
English 1-2 ..... 6
Natural Science ..... 8
History, Economics or Political Science ..... 6
Sociology ..... 3-6
Psychology ..... 3-6
Electives ..... 12-18(Literature, Art, Music, Religion, Ethics, Lan-guage)38-50
2. Basic nursing program ..... (40) maximum)
May be taken at the Duke University School of Nursing orat any approved school of nursing.The amount of credit which is granted for the nursingschool program is determined on an individual basis.
3. Courses in education and nursing education
4. Educ. Psychology: Learning and Measurement 3
5. Educ. Psychology: Psychological Development 3
84N. Social Foundations of Nursing Education ..... 3
101 N . The Curriculum of the School of Nursing ..... 3
115 N.$\}$ Nursing Education-Principles and Practices ..... 8
6. Community Nursing-Seminar and Field Trips to Community Agencies ..... 3
23
7. Field of Concentration- 15
Fifteen semester hours in one field such as chemistry, zoology,physics, psychology or sociology, or in a clinical area and relatedsubjects is required. No freshman work may be included in thesefifteen semester hours. Nurses who are interested in head nursework or supervision in a clinical area are advised to take the fol-lowing courses:
8. Ward Administration and Teaching ..... 3
9. Personnel Work in Schools of Nursing ..... 3
10. Problem in Nursing Care ..... 2
11. Professional experienceOne year of experience as a graduate nurse is required before thedegree is granted.

# II. DEGREE OF MASTER OF EDUCATION WITH A MAJOR IN NURSING EDUCATION 

(Not offered in 1950-51)
Admission
A student who wishes to work toward the degree of Master of Education with a major in Nursing Education must apply for admission to the Graduate School of Duke University. To be eligible for admission as a candidate for this degree she must meet the following requirements:
(1) Graduation from an approved college or university with an average grade of not less than "B."
(2) Satisfactory standing on the Graduate Record Examination.
(3) Satisfactory standing on a test of mental ability.
(4) Ability to write acceptable English as demonstrated on a test.
(5) Graduation from an approved school of nursing.
(6) Satisfactory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.
Outline of Program
Basic Required Courses in Education: s.h.
300. Methods of Educational Research ................... 3
304. The School as an Institution ......................... 3
305. The Nature, Function, and Reorganization
of the Curriculum ........................................ 3
317. The Psychological Principles of Education ........ 3
Courses in Nursing Education:
310. Organization and Administration of
Schools of Nursing ................................. 4
311. Problems in Personnel Administration in Nursing .. 4
312. Research Problem ...................................... 4
12
Minor, intra-departmental or extra-departmental ........ 6
30

Candidates for the Master of Education degree must have had two years of experience including administration, supervision, or teaching in a school of nursing or nursing service organization when the degree is granted.

## III. TUITION, FEES, AND OTHER EXPENSES Fees Per Semester

A matriculation fee of $\$ 20.00$ is paid at the time of acceptance to Woman's College.

Tuition
$\$ 175.00$
General Fee (Undergraduate) including health,
$\quad$ library and incidental fees ...................... 75.00
General Fee (Graduate School) ..................... 60.00
Laboratory Fee (amount depends upon course which is taken)

## Living Arrangements

Students may make their own arrangements to live in private homes. A limited number of students can be housed in the Graduate Nurses' Residence, 2204 Erwin Road. The cost of living in this residence is as follows:

$$
\text { Single room (per semester) . . . . . . . . . . . . . . . . . . . . } \$ 87.50
$$

Double room (per semester) ........................... . 67.50
Meals can be secured at a nominal rate at University cafeterias.

## Employment

A limited number of nurses may be employed at Duke Hospital during the time they are taking courses at Duke University. Nurses who are working full-time ( 44 hours per week) may take one course each semester. Nurses who wish to reduce hours of work per week to 36, with a corresponding reduction in salary, may take two courses each semester.

For information about employment write to the Director of Nursing Service, Duke Hospital.

## IV. PROGRAM IN PSYCHIATRIC NURSING

A twelve-month program in psychiatric nursing is offered to qualified graduate nurses. The primary objective of this program is to prepare individuals for head nurse positions in psychiatric units of hospitals, child guidance clinics, and related fields. Students who wish to qualify for supervisory or teaching positions in the psychiatric field are advised to complete the program which leads to the degree of Bachelor of Science in Nursing Education.

Students have approximately 20 hours per week of carefully planned laboratory practice on clinical services, during which time they work closely with patients presenting a wide variety of emotional disturbances. They also have an opportunity to participate in staff conferences and clinics at Duke Hospital and at the State Hospital in Raleigh.

Approximately 30 semester hours of credit toward the Bachelor of Science in Nursing Education degree may be earned during the calendar year.

A limited number of training stipends are available through the U. S. Public Health Service for those nurses who have demonstrated particular interest and aptitude in this field.

Requirements for admission are the same as for all students admitted tc. the program which leads to the degree of Bachelor of Science in Nursing Education.

## Outline of Program (One Year)

## Fall Semester

Educ. 130 N Psychosomatic Nursing ..... 4
Educ. 131 N Psychiatric Nursing ..... 4
Soc. 101 General Sociology ..... 5
Educ. 84 N Social Foundations of Nursing Education 316
Winter Semester
Educ. 132N Psychiatric Nursing ..... 4
Educ. 120N Problem in Nursing Care ..... 2
Educ. 193N Ward Administration and Teaching ..... 3
Psych. 116 Psychology of Adjustment ..... 312
Summer
Educ. 133N Seminar in Psychiatric Nursing ..... 3

## V. CLINICAL PROGRAM IN OPERATING ROOM NURSING

A program in operating room nursing of nine months in length is offered to qualified graduate nurses who are interested in preparing for head nurse positions in an operating room.

## Admission

An individual who is interested in the program in operating room nursing must apply for admission to the Woman's College of Duke University as a special student. To be admitted as a special student the following records are required:

1. Transcript of high school or of college record.
2. Transcript of nursing school record.
3. Satisfactory rating from a nursing service administrator or supervisor with whom the applicant has had recent contact.

In addition to the above requirements an applicant must have had a minimum of six months' experience as an operating room nurse.

## Outline of Program

*Courses in Nursing Education and Related Subjects
84N. Social Foundations of Nursing Education ................. 3
120. Problem in Nursing Care .................................. . . 2

* Credit toward the degree of B.S. in Nursing Education is given for these courses.

193. Ward Administration and Teaching ..... 3
194. Personnel Work in School of Nursing ..... 3
Elective ..... 3

## Classes and Related Experience in Operating Room Nursing

The course in operating room nursing includes 60 hours of organized class work during the period of nine months and an average of 36 hours each week on duty, of which 18 hours is supervised experience. The class work includes a discussion of the facts and principles of chemistry, bacteriology, anatomy and physiology, underlying preparation for and assistance with surgical operations, both general and special. The history of anesthesia is presented, as well as present day trends and developments in the field.

In the related field work the nurse becomes acquainted with the functions of various departments of the hospital and their relationship to the operating room. She has an opportunity to prepare for and assist with various surgical operations including general surgery, chest surgery, neuro-surgery, orthopaedic surgery, urological surgery, plastic surgery and eye, ear, nose and throat surgery. She is also given an opportunity to assist with administrative and supervisory functions in the operating room, and with planning and conducting a teaching program for students and others.

## Fees

Each student pays the regular University fees for courses in Nursing Education and related subjects. The fee per credit hour is $\$ 12.00$ (194950 ). In addition a matriculation fee of $\$ 5.00$ is paid each semester.

## Living Arrangements

Students who are taking the course in operating room nursing receive full maintenance in return for service to the hospital.

## Health Care

Each student is required to carry hospitalization insurance to cover the cost of hospitalization during illness.

A sick leave of seven days is given during the nine months period.

## Dates of Admission

Students are admitted to the program in operating room nursing at the beginning of each semester.

## Certificate

At the completion of the nine months program in operating room nursing the student is granted a certificate.

## Information

For further information about any program write to Director of the Division of Nursing Education, Duke Hospital, Durham, North Carolina.

Application for admission to the Woman's College should be made to the Committee on Admissions, College Station, Durham, North Carolina.

## DESCRIPTION OF COURSES

84N. Social Foundations of Nursing Education.-3 s.h. Miss Ingles 101N. The Curriculum of the School of Nursing.-3 s.h. Miss Smith 115-116N. Nursing Education, Principles and Practice.-8 s.h.

Miss Smith
117. Community Nursing.-3 s.h.

Miss Massey
120. Problem in Nursing Care.-2 s.h.
124. Teaching of Nursing Arts.-3 s.h.

Miss Ingles
193. Ward Administration and Teaching.-3 s.h.

Miss Crawley
195. Personnel Work in Schools of Nursing.-3 s.h. Miss Smith 130N. Psychosomatic Nursing.-4 s.h.

Miss Moser and Staff of the Department of Psychiatry
131-132N. Psychiatry and Psychiatric Nursing.-4 s.h.
Miss Moser and Staff of the Department of Psychiatry
133N. Seminar in Psychiatric Nursing.-3 s.h.
Miss Moser and Staff of the Department of Psychiatry

# PUBLIC HEALTH NURSING 

School of Public Health<br>University of North Carolina<br>Chapel Hill, N. C.

## PUBLIC HEALTH NURSING

The program of study in Public Health Nursing is designed to prepare registered professional nurses to carry on the functions of public health nursing in local health departments, visiting nurse associations, or joint health agencies.

Curricula leading to a certificate or baccalaureate degree in Public Health Nursing are offered.

## Requirements for Admission

General:

1. Ability to meet the regular entrance requirements of the University.
2. Graduation from an approved school of nursing offering a satisfactory theoretical and clinical experience.
3. Acquisition of the status of a registered nurse in any state. Specific:
4. Candidates for the Certificate in Public Health Nursing: (a) General requirements above.
5. Candidates for the degree of Bachelor of Science in Public Health Nursing :
(a) General requirements.
(b) Two years of prescribed academic work in an accredited university or college.
(c) Approval of the Committee on Admissions to the curriculum for the Bachelor of Science in Public Health Nursing.
6. Candidates for the Master of Public Health degree:

Graduation from an approved school of nursing and graduation with a bachelor's degree from an accredited college or university. The undergraduate program must have included at least eight courses in the natural sciences, and it is desirable that the student shall have had work in social science and education.

## Plan of Instruction

The calendar year's curriculum in Public Health Nursing is required of all majors in this field. While there is a prescribed curriculum of study, a program will be arranged on an individual basis with consideration for the educational and experiential background of the student. The program is so arranged that students are admitted in the Fall Quarter and are expected to remain for at least three consecutive quarters. With
the approval of the Department, public health nurses with experience may be admitted in the summer provided they plan to remain for a minimum of three consecutive quarters. Field work is an essential part of the program and is required for either the degree or the certificate. Exceptions may be made where a quarter of supervised field experience has been previously taken in an approved University program, or on approval of the curriculum committee.

## Curriculum in Public Health Nursing

Required Courses: Credit Hours
P.H. 101 Epidemiology .................................................... 3
P.H. 111 Public Health Administration ......................... 3
P.H. 114 Mental Hygiene .......................................... 2
P.H. 131 Parasitism and Human Disease ....................... $3^{1 ⁄ 2} 2$
P.H. 141 Public Health Nutrition ................................ 3
P.H. 190 Principles and Practices of Public Health Nursing 5
P.H. 191 Public Health Nursing Organization and

Administration
5
P.H. 192 Group Work: Its Interpretive Factors ............... 3
P.H. 193 Applied Public Health Nursing Field Practice ..... 15
P.H. 195 The Public Health Nurse in a Maternal Health

Program .......................................... 3
P.H. 196 Special Fields in Public Health Nursing ............ 5

Soc. 51 An Introduction to Sociology ........................ 5
P.H. 198 Growth and Development of the Child ................ 3
P.H. 118 Health and Sickness in Modern Society ............ 3

For experienced students or graduates of university schools of nursing who have had an acceptable course in any of the above, an elective may be substituted.

## Bachelor of Science in Public Health Nursing

Because of the increasing demands of public health departments for nurses with a baccalaureate degree, it is desirable for students to enroll in the curriculum leading to the degree of Bachelor of Science in Public Health Nursing.

Candidates for this degree must fulfill the following requirements:

1. Satisfactory completion of 90 quarter hours ( 60 semester hours) in an accredited college or university. The amount of credit not exceeding 90 quarter hours extended for work in other colleges will be determined by the Committee on Admissions.
(a) Required:

24 quarter hours in the natural sciences, selected from zoology, botany, chemistry, physics, psychology.
20 quarter hours in English.
10 quarter hours in the social sciences, selected from sociology, upper division psychology, history.
(b) Electives:

The departmental adviser will assist the student in the selection of the remaining courses ( 36 quarter hours) with reference to her individual needs.
2. Graduation from an approved school of nursing, with credit to be determined by the Committee on Admissions.
3. Satisfactory completion of the curriculum in Public Health Nursing in the School of Public Health at the University of North Carolina.

## Tuition and Fees

The tuition is $\$ 100.00$ a quarter. This includes the following University charges for each quarter:

Matriculation ..................................................... . $\$ 21.00$
Student Activities ................................................... . . 3.85
Special Library Fee ................................................ . . . . . 3.00
Woman's Association (women students only) ............. 1.00
The laboratory fee for the field quarter in Public Health Education and Public Health Nursing is $\$ 300.00$ in addition to the $\$ 100.00$ tuition.

## MASTER OF PUBLIC HEALTH

The course leading to the degree of Master of Science in Public Health is designed to provide a broad training in the basic health sciences and is intended to prepare students for professional careers in several vital fields of public health.

Requirements for Admission: For admission to the program of study leading to this degree students in nursing must satisfy with an acceptable record the following requirement:

1. Graduation from an approved school of nursing and graduation with a bachelor's degree from an accredited college or university. The undergraduate program must have included at least eight courses in the natural sciences, and it is desirable that the student shall have had work in social science and education.
Requirements for the Degree: The following are the principal requirements for the degree:
2. A period of residence of at least one academic year at the University. For nurses and health educators an additional period of three months devoted to field training under the supervision of the University is required. For other personnel the field training is at present optional.
3. The completion with high grades of an approved program of courses which includes public health administration, epidemiology, sanitation, bacteriology, and statistics. The course program shall involve credits of not less than 45 quarter-hours nor more than 60 quarter-hours.
4. A final written comprehensive examination in the field of the student's major interest, and a comprehensive oral examination on the entire program of study.
Candidates for this degree must complete all the requirements within six years from the time of their first matriculation in the program. Students completing their program over a period of years will be required to satisfy all requirements for the degree which are in effect in the final year of their work.

## THE SCHOOL OF FORESTRY

Fall Semester, 1950, begins September 21 ;
Spring Semester, 1951, begins January 31.

1949-1950
ANNOUNCEMENTS FOR 1950-1951

# FORESTRY IN DUKE UNIVERSITY 

## GENERAL STATEMENT

Forestry in Duke University began early in 1931, when, through placing the Duke Forest under intensive management for forestry purposes, a substantial beginning was made in laying the foundation for educational work and research in forestry.

An academic-forestry curriculum, designed for students intent upon pursuing the study of forestry, particularly as a profession after graduation, was organized in Trinity College of Duke University in 1932 (see Annonncement on Undergradnate Instruction in Duke University). This four-year course of study provides only for instruction in fundamental and auxiliary subjects basic to a proper understanding of the highly specialized work in technical forestry. Duke University offers no professional degree in technical forestry available to undergraduates.

Training in technical forestry leading to the professional degrees, Master of Forestry and Doctor of Forestry, is offered in the School of Forestry, and is open to all graduates of the academic-forestry curriculum in Trinity College and to graduates of recognized scientific schools or colleges, universities, and professional schools of forestry.

Duke University is also prepared to offer, through the Graduate School of Arts and Sciences, graduate work in the more scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy degrees. This work is available to graduates of schools of forestry of recognized standing, and to college or university graduates holding the Bachelor's degree with their major work in appropriate scientific subjects. Undergraduate subjects which the college student, who does not have forestry training but who is contemplating work toward either degree in forestry, should take in preparation for this work may be illustrated as follows: At least two full years in botany, including general morphology or anatomy, the taxonomy, physiology, and ecology of plants; at least one course in zoology or general biology; courses in chemistry, physics, geology, economics, mathematics; and at least two years of French or German.

Several staff members of the Southeastern Forest Experiment Station are engaged in co-operative research projects in the Duke Forest. Specialists from this station and other prominent members of the U. S. Forest Service and representatives of forest and wood-using industries give occasional scheduled lectures at the School.

## EDUCATIONAL FACILITIES

The School of Forestry is located in the Social Science and Biology Buildings on the West Campus. The School is provided with instruments and tools for use in both field and laboratory work in silvics, silviculture, harvesting, and forest mensuration. Modern surveying instruments and accessory equipment are available for work in forest surveying.

Laboratories for work in wood anatomy and properties are provided with microtechnique and photomicrographic instruments, wood-working machinery, and a 50,000 -pound Olsen Universal timber-testing machine, in addition to a glue and plywood laboratory. A modern forest soils laboratory equipped for physical and chemical studies is available. In the field of seasoning and preservation of wood a commercial-sized, singlecompartment dry kiln and a fully equipped experimental pressure treating cylinder are available for instruction and research.

Facilities are also available for advanced work in plant physiology, plant anatomy, plant taxonomy, genetics, plant ecology, plant pathology, and the several branches of zoology.

The School of Forestry Library contains a growing collection of material on forestry and related subjects. It includes important books and periodicals in English and in French, German, and other foreign languages. The Library is well provided with American material, including Federal and State documents and reports. Over 150 periodicals and serials of importance in forestry and related fields are received by subscription or exchange.

Greenhouses, connected to the Biology Building through a soil-storage and work room, provide adequate space for experimental work.

A nursery has been established by the University for joint use of the Sarah P. Duke Floral Garden, the Botany Department, and the School of Forestry. The forestry section of this nursery is used mainly for the growing of planting stock for the Arboretum and trees needed for research or other special purposes.

West Virginia Pulp and Paper Company has made available to Duke University a field headquarters for work in forests of the South Atlantic Coastal Plain located 18 miles northwest of Summerville, South Carolina. This company has extensive forest holdings under close supervision of a staff of technical foresters in South Carolina and permits access to its lands for instruction and research in forestry and allied fields. This headquarters camp with modern facilities for as many as 45 men is used as a base primarily for utilization work each spring and for special work in silviculture. The quarters may be available at other times for students and faculty members of the Duke School of Forestry working on special problems or doing advanced work in any of the fields of forestry concerned with coastal plain problems. The establishment of this headquarters camp in the coastal plain region makes it possible for the School of Forestry to provide instruction and conduct research in this important forest area in which many privately owned forests as well as public forests are intensively managed for the production and utilization of a wide range of forest products. The Southern Railway Demonstration Forest is within easy reach of this center and will also be available for work, particularly with longleaf pine.

The School sponsors occasional lectures on forestry and conservation by speakers of national reputation.

An active Forestry Club is maintained as a student organization to bring the members of the School and students in the undergraduate
academic-forestry curriculum into closer contact and to afford opportunities for extracurricular activities not otherwise available.

## FOREST INDUSTRY TRAINING PLAN

The School of Forestry and the Southern Pine Association have initiated a joint plan for training graduate foresters in the Southern lumber industry. Graduates of the School will be placed, with the assistance of the Association Forester, with companies desiring to participate, for a period of approximately one year during which time the men will work in a variety of capacities under competent supervision.

The plan is designed better to equip young foresters for careers in forest industries and to make them more useful employees capable of developing executive capacities. The gap between academic education and practical training will be bridged under the operation of the plan for the mutual benefit of the men and their prospective employers.

Detailed information about this program can be obtained from the School of Forestry or from the Southern Pine Association, New Orleans, Louisiana.

## THE DUKE FOREST

The Duke Forest, located in Durham and Orange counties, North Carolina, consists of five main units: namely, the Durham, New Hope Creek, Hillsboro, Eno, and Blackwood divisions. Early in the development of Duke University it was recognized that the possession of such an area offered an unusual opportunity for the development of educational work in forestry.

Situated on the lower Piedmont plateau at elevations ranging from 280 to 650 feet, and composed of second-growth shortleaf and loblolly pines, oak, gum, hickory, maple, yellow poplar, ash, and other hardwoods, the Forest is representative of the various types of timber growth found throughout the region. Over a hundred different species of trees are found within or near the Forest. The land is rolling and there is relatively little rock outcrop, swamp, or other land of low productivity for timber growing. The total area of the Forest proper, exclusive of the University campus, is approximately eight thousand acres.

## THE ARBORETUM

Of outstanding value in the teaching of both forestry and botany in the future is the provision for the development of an arboretum. In their annual meeting on June 4, 1934, the Board of Trustees of Duke University, upon the recommendation of their Forestry Committee, voted to set aside permanently an area of over three hundred acres in the Forest to be used for arboretum purposes. The area lies adjacent to the main University campus immediately across the road from the Chapel.

Through the generosity of the late W. W. Flowers, of New York, a member of the Class of 1894 and a Trustee of the University, it has been possible to develop preliminary plans and to make a number of plantings. This is naturally a long-time project, and many years will elapse before
the Arboretum will be most useful and most attractive. The University Trustees' Committee on Forestry in its report to the Board refers to the Arboretum as follows:
"The Arboretum should serve as a station for the study of trees and woody plants as individuals and in small groups in their scientific relations, economic properties, and cultural characteristics, requirements, and possibilities. It should render an economic service by acting as a research laboratory where trees and shrubs can be studied from the viewpoint of a fuller utilization of their commercial possibilities. It should render a cultural service by serving as a center where foresters, landscape architects, nurserymen, gardeners, and the general public may increase their knowledge of indigenous trees and shrubs and where they may become acquainted with the foreign species that can be grown here. Within the University the Arboretum will supply living specimens and material for several branches of botany and forestry."

The development of the Arboretum will proceed along these lines as rapidly as available funds and planting stock will permit.

## FELLOWSHIPS, SCHOLARSHIPS, AND GRADUATE ASSISTANTSHIPS IN FORESTRY

A number of fellowships, scholarships, and research assistantships are available to men who offer promise of becoming leaders in the forestry profession. These will be awarded for high character and marked scholastic ability as judged by education, experience, and personal references.

Holders of the awards will pay tuition and such additional fees as are regularly reguired.

The awards are of three classes with stipends and special conditions as follows:
(1) Fellowships of $\$ 600$ to $\$ 1,000$ each. Each recipient must have previously completed work equivalent to that required at Duke University for a Master's degree with major in forestry or in a discipline basic to forestry. He will devote his time to an approved program of study and research in any of the branches of forestry. He is expected to become a candidate for the degree of Doctor of Forestry or Doctor of Philosophy.
(2) Scholarships of $\$ 250$ to $\$ 700$ each. Each recipient will normally devote his time to an approved program of study leading to the degree of Master of Forestry or Master of Arts with a major in forestry.

Holders of fellowships and scholarships will be expected to do a limited amount of assisting.
(3) Graduate assistantships of $\$ 1,000$ each. Each recipient will devote half-time to research or other work of the School of Forestry. He will be permitted to enroll for not more than 20 semester hours in a school year on a program of study, or study and research, leading to the degree of Master of Forestry, Master of Arts, Doctor of Forestry, or Doctor of Philosophy.

Two Union Bag \& Paper Corporation forestry fellowships of $\$ 800$ each are available for graduate study leading to the degrees of Master of

Forestry or Doctor of Forestry with major work in the fields of harvesting and marketing of forest products, silviculture, or forest economics, or combination majors in two of the above fields, for men interested in private forestry careers. Preference will be given to forestry graduates of southern institutions for one of the awards. College graduates not having degrees in forestry must have completed at least one year of forestry in a recognized school of forestry to be eligible for these fellowships. The Woodlands Division of the Union Bag \& Paper Corporation with headquarters at Savannah, Georgia, has agreed to employ the recipients of the awards during the summer preceding their enrollment in the Duke School of Forestry to provide opportunity for contact with private forestry activities and to assemble material for their theses, should they desire to avail themselves of this opportunity. A fund is available each year for expenses incurred in the collection and analysis of thesis data and for other expenses in connection with the fellowships. This fund is disbursed by the School of Forestry only as needed for essential expenses.

The following arrangements are common to all fellowships, scholarships and research assistantships in forestry:
(1) Each applicant must have received a Bachelor's degree from an acceptable professional school of forestry or must be a graduate of a recognized college or university. If an applicant is not a graduate of a school of forestry, he must have had major work in botany or soil science and in the allied basic sciences. Each applicant must show reasonably high scholarship. Preference will be given to men who have already obtained technical or professional training in forestry.
(2) It is highly desirable that each applicant state as specifically as possible the field in which he wishes to study. The definite selection of a major field of work-one that is specific in purpose and involves training both in fundamentals and in technique-is very helpful to the Committee on Awards.
(3) Application blanks for fellowships, scholarships, and research assistantships may be obtained by writing to the Dean of the School of Forestry, Duke University, Durham, North Carolina. When the blank has been filled out by the applicant, it should be returned to the above address, and an official transcript of record showing college or university credits must accompany it or be forwarded promptly. The application and transcript must be filed not later than March 1 for consideration for the following academic year. In case vacancies occur, applications submitted on a later date may be considered.

## REQUIREMENTS FOR ADMISSION TO THE SCHOOL OF FORESTRY

The following general requirements of the School of Forestry apply to candidates for the Master of Forestry degree:

Admission to the School of Forestry presupposes that the applicant is either a graduate of a scientific school, college, or university of high standing, but without professional training in forestry; or that he is a
graduate of a professional school of forestry. He will present not less than four years of credit of collegiate grade with at least one and one half times as many quality points as hours. ${ }^{1}$

An applicant with no professional training in forestry will present a certified transcript of his academic record showing that he has had conferred upon him a degree in arts, science, or engineering; and that he has satisfactorily completed undergraduate work in minimum amount as follows:

One year of botany, including the morphology, physiology, and identification of plants.

One year each of English composition and of chemistry.
One course each in physics and in the principles of economics.
Mathematics, through college algebra and trigonometry.
It is urged that an applicant without professional training in forestry present additional credits in the above subjects and in one or more of the following subjects: soils, geology, mineralogy, petrology, climatology, surveying, languages (particularly German and French), sociology, political science, philosophy, psychology, and zoology.

An applicant who is a graduate of a professional school of forestry will present a certified transcript of scholastic record showing the award of a degree. Before registering for the first semester of residence, such applicants will be required to select the branch or branches of forestry in which they wish to concentrate the major part of their work and to prepare their proposed programs in conference with the appropriate faculty adviser.

Students must make application for admission in advance of the opening of the school year. Those students entering without acceptable courses in plane surveying, forest surveying, and forest mensuration must take the twelve weeks of work in these subjects in the Summer Session, and are required to submit their applications prior to May 1. Students entering with advanced standing in surveying and forest mensuration should make application before September 1. Application blanks will be sent upon request made to the Dean of the School of Forestry.

## REQUIREMENTS FOR THE DEGREE OF MASTER OF FORESTRY

The degree of Master of Forestry (M.F.) is conferred upon students who have satisfactorily completed two years of study in technical forestry and one term of twelve weeks work in plane surveying, forest surveying, and forest mensuration in the Summer Session. In addition to the Summer Session work a total of not less than sixty semester hours credit is required for the M.F. degree, of which at least fifty shall have been obtained in the School of Forestry. Each student must have obtained at least as many quality points as semester hours of credit, under the quality-

[^52]point system described in footnote 1 of the preceding section, to qualify for the M.F. degree.

## REQUIREMENTS FOR THE DEGREE OF DOCTOR OF FORESTRY

## THE DEGREE

The degree of Doctor of Forestry (D.F.) is a professional and research degree, involving both advanced study and research. It is based upon evidence of high attainments in a special branch of forestry knowledge or in the broad field of forestry, including the production of a thesis which is the result of original work and which is a distinct contribution to knowledge in the field of forestry.

## FORESTRY IN THE GRADUATE SCHOOL

Graduate work toward the Master of Arts and Doctor of Philosophy degrees in the more scientific branches of forestry is available to adequately prepared students at Duke University. This work is given through the Graduate School of Arts and Sciences by certain members of the School of Forestry Faculty.

The following special conditions will influence the acceptance of students for graduate study in forestry: The student must have received a degree from a professional school of forestry of recognized standing or from an approved college or university. Graduates of professional schools of forestry must also have had adequate training in liberal arts and sciences, approximating 86 semester hours, before being admitted to candidacy for the Master of Arts or Doctor of Philosophy degree. College graduates who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them.

The Forestry Staff will determine whether a student is qualified to pursue graduate study in any of the special fields of forestry in which work is available.

The Master of Arts and Doctor of Philosophy degrees are attained through scientific work rather than technical or professional training in forestry. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, forest entomology, silvics, forest soils, forest mensuration, forest management, and forest economics, except that a major cannot be taken in forest management. A student upon registration chooses a field of study which may lie in two or more departments. The members of the Graduate School Faculty best qualified in that field are named as the student's advisory committee, regardless of the department of which they are members. This committee will advise the student in the planning and conduct of his work and will evaluate it when completed.

A reading knowledge of French and German must be acquired early in the course of graduate study in forestry because much of the forestry literature of the world is written in or has summaries in these languages. For the Ph.D. degree the language requirement must be met before the preliminary examination is taken and usually before the preparation of the thesis is begun.

The length of time required for a student to obtain the Master of Arts and Doctor of Philosophy degrees in forestry is determined by the character of his previous work and by the quality of his work in the Graduate School. Upon the recommendation of the Forestry Staff and with the approval of the Council on Graduate Instruction, work of equal grade done in residence at another college or university, or at a research station or institute not connected with a college or university, may be
accepted toward a Ph.D. degree, but at least the last year of the first two years of graduate study must be spent in actual residence at Duke University. Only in connection with the preparation of the thesis will work be accepted that has been done elsewhere than in residence at a college, university, or research station.

Students whose research is concerned with the study of trees and forest stands in the Duke Forest during the growing season may find it necessary to be at the University during the summer.

The field of study may include advanced work in allied subjects as well as advanced work in forestry. The students should have covered, however, most of the basic subjects prior to entering the Graduate School. The required advanced work will depend upon the student's previous training and the special field of study selected. Before beginning his work a student must obtain approval of his proposed program of study, including the plans for the research for his thesis. Courses of study must be correlated with each other and with the thesis research.

For further information on requirements for admission to the Graduate School of Arts and Sciences and on the general requirements for the Master of Arts and Doctor of Philosophy degrees reference should be made to the Bulletin of the Graduate School of Arts and Sciences.

## COURSES AND SUBJECTS OF INSTRUCTION

This is a condensed description of courses. For a full description, see Bulletin of the School of Forestry.

IN THE SUMMER SESSION
C.E. S110. Plane Surveying.-4 s.h.

Mr. Brown
S150. Forest Surveying.-Prerequisites: Civil Engineering S110, plane surveying, or equivalent. 5 s.h. Assistant Professor Rudolph

S151. Forest Mensuration.-4 s.h.
Professor Schumacher

## FOR SENIORS AND GRADUATES

212. Harvesting and Processing Forest Products. -4 s.h.

Professor Wackerman
213. Seasoning and Preservation of Wood.-3 s.h. Professor Wackerman
214. Marketing Forest Products.-Prerequisites: Forestry 212 or equivalent. 3 s.h.

Professor Wackerman
224. Forest Pathology.-Prerequisites: Botany 1 and 2, and Forestry 253, or equivalents. 3 or 4 s.h. Professor Wolp
231. Forest Entomology.-3 s.h. Professor Beal
232. Forest Products Entomology.-3 s.h. Professor Beal
236. Forest Game Management.-3 s.h. Professor Beal
251. Sampling Methods in Forestry.-Prerequisite: Forestry S151. 3 s.h.

Professor Schumacher
252. Forest Mensuration.-Prerequisite: Forestry 251. 3 s.h.

Professor Schumacher
253. Dendrology.-Prerequisite: one year of botany. 3 s.h.

Professor Harrar
255. Bonding of Wood.-Prerequisite: Forestry 260 or equivalent. 3 s.h.

Professor Harrar
257. Design of Forestry Experiments and Analysis of Data.-5 s.h.

Professor Schumacher
259. Wood Anatomy.-Prerequisite: One year of botany. 3 s.h.

Professor Harrar
260. Properties of Wood.-Prerequisites: Forestry 259, one year of college chemistry; one course in college physics. 3 s.h. Professor Harrar
261. Forest Soils.-Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalents; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h.

Professor Colle
263. Silvics.-Desirable prerequisites: plant physiology, plant ecology, and Forestry 253 and 261, or equivalents. 3 s.h. Professor Korstian
265. Theory and Practice of Silviculture.-Prerequisite: Forestry 263 or equivalent. 3 s.h.

Professor Korstian
266. Applied Silviculture.-Prerequisite: Forestry 265 or equivalent. 2 s.h. Professor Korstian
268. Forest Seeding and Planting.-2 s.h.

Professor Korstian
273. Forest Protection.-2 s.h.

Assistant Professor Rudolph
275. Forestry Policy.-2 s.h.

Professor Thomson
277. Economics of Forestry.-Prerequisite: at least one course in the principles of economics. 3 s.h.

Professor Thomson
278. Forest Valuation.-Prerequisites: Forestry 277 and 280, or equivalents. 3 s.h.

Professor Thomson
279. Economic Analysis in Forestry.-3 s.h.

Professor Thomson
280. Forest Management.-Prerequisite: Forestry 251 or equivalent. 3 s.h. Assistant Professor Rudolph
282. Management Plans.-Prerequisites: Forestry 265 and 280 or equivalents. 2 s.h. Assistant Professor Rudolph 212A to 282A. Special Studies in Forestry.

The Staff

## FOR GRADUATES

301-302. Advanced Studies in Forestry.-Credits to be arranged.
a. Silvics.-Prerequisites: Forestry 253, 261, and 263, or equivalents.

Professor Korstian
b. Forest Soils.-Prerequisite : Forestry 261 or equivalent.

Professor Coile
c. Silviculture.-Prerequisites: Forestry 265 and 266 or equivalent. Professor Korstian
d. Forest Management.-Prerequisite: Forestry 280 or equivalent.

Assistant Professor Rudolph
e. Forest Economics.-Prerequisite: Forestry 277 or 279 or equivalent.

Professor Thomson
f. Properties of Wood.-Prerequisites: Forestry 259 and 260 , or equivalents. Professor Harrar
g. Forest Mensuration.-Prerequisite: Forestry 252, or equivalent.

Professor Schumacher
h. Forest Entomology.-Prerequisites: Forestry 231, 232 or equivalent.

Professor Beal
i. Forest Utilization.-Prerequisite : Forestry 212 or equivalent.

Professor Wackerman
j. Dendrology.-Prerequisite : Forestry 253 or equivalent.

Professor Harrar
311. Advanced Forest Utilization.-Prerequisite: Forestry 212 or equivalent. 3 s.h.

Professor Wackerman
320. Seminar in Silviculture.-Prerequisite: At least one course in silviculture. 3 s.h.

Professor Korstian
322. Soil Classification and Mapping.-Prerequisite: Forestry 261. 2 s.h. Professor Coile
323-324. Advanced Forest Pathology.-Prerequisites: plant physiology and forest pathology.

Professor Wolf
351-352. Advanced Physiology of Forest Trees.-Prerequisites: plant physiology and plant ecology or silvics. Professor Kramer
354. Forest Soil Fertility.-Prerequisites : Forestry 251 and 261, plant physiology, bacteriology and analytical chemistry. 3 s.h. Professor Coile
356. Comparative Forest Valuation.-Prerequisites: Forestry 277, 278, or 279 , or equivalent; courses in economic theory are desirable. 2 s.h.

Professor Thomson
357-358. Research in Forestry.-Credits to be arranged.
The Staff

## FEES AND EXPENSES

The following tables show the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester, and no student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.

## GENERAL FEES

Tuition, per semester .....  $\$ 175.00$
General Fee, per semester ..... 60.00

## TRANSCRIPTS

A student desiring to transfer from Duke University to another institution is entitled to one transcript of his record. A charge of one dollar is made for each additional copy.

## PAYMENTS TO FELLOWS AND SCHOLARS

Payments by the University of stipends to fellows, research assistants, and scholars are made in four installments, on November 25, January 25, March 25, and May 25. Fellows and scholars are required to pay the regular tuition fee and such additional fees as are ordinarily required of graduate students.

## ESTIMATED EXPENSES FOR AN ACADEMIC YEAR

The necessary expenses of a graduate student are moderate: the University dormitories provide thoroughly comfortable and wholesome living conditions at a minimum cost, while all charges made by the University have been kept low. Incidental expenses naturally depend upon the tastes and habits of the individual. The following table gives the necessary college expenses for one year:

|  | Low | Moderate | Liberal |
| :---: | :---: | :---: | :---: |
| Tuition | \$350.00 | \$ 350.00 | \$ 350.00 |
| General Fee | 120.00 | 120.00 | 120.00 |
| Room-rent | 125.00 | 125.00 | 175.00 |
| Board | 337.50 | 388.00 | 468.00 |
| Laundry | 20.00 | 25.00 | 35.00 |
| Books | 22.50 | 30.00 | 45.00 |
| Athletic Fee (optional) | 10.00 | 10.00 | 10.00 |
| Total | \$985.00 | \$1,048.00 | \$1,203.00 |

# THE SUMMER SESSION 

First Term: June 14-July 22
Second Term: July 6-August 12
Third Term: July 24-August 31

1950

## ADMINISTRATIVE OFFICERS

ARTHUR HOLLIS EDENS, B.Ph., A.M., M.P.A., Ph.D., LL.D.,
President of Duke University
PaUL MAGNUS GROSS, B.S., A.M., Ph.D.,
Vice-President in the Educational Division, and Member of the
University Committee on the Summer Session
CHARLES EDWARD JORDAN, A.B., LL.D.,
Vice-President in the Division of Public Relations, Secretary of the
University, and Member of the University Committee on
the Summer Session
HERBERT JAMES HERRING, A.B., A.M., LL.D.,
Vice-President in the Division of Student Life, Dean of Trinity College,
and Member of the University Committee on the
Summer Session
ALFRED SMITH BROWER, A.B.,
Business Manager and Comptroller, and Member of the University
Committee on the Summer Session
WILLIAM THOMAS LAPRADE, A.B., Ph.D.,
Member of the University Committee on the Summer Session
ALAN KREBS MANCHESTER, A.B., A.M., Ph.D.,
Dean of Undergraduate Studies, and Member of the University
Committee on the Summer Session
JoSEPH CLARK ROBERT, A.B., A.M., Ph.D.,
Associate Dean of the Graduate School, and Member of the University
Committee on the Summer Session
PAUL HIBBERT CLYDE, A.B., A.M., Ph.D.,
Director of the Summer Session
ARTHUR MARCUS PROCTOR, A.B., A.M., Ph.D.,
Co-Director of the Summer Session
MARY GRACE WILSON, A.B., A.M.,
Dean of Residence and Social Director, Woman's College

## THE FACULTY

Adams, Donald Keith, A.B., M.A., Ph.D.; Psychology (Duke University). Anderson, Lewis Edward, B.S., A.M., Ph.D.; Botany (Duke University).
Archie, William Council, A.B., A.M., Ph.D.; Romance Languages (Duke University).
Bailey, Joseph R., A.B., M.A., Ph.D.; Zoology (Duke University).
Balseiro, José Augustín, A.B., LL.B.; Spanish (University of Miami).
Baum, Paull F., A.B., A.M., Ph.D.; English (Duke University).
Bennett, Walter H., A.B., A.M., Ph.D.; Political Science (University of Alabama).
Berry, Edward Willard, A.B., Ph.D.; Geology (Duke University).
Black, Martin Lee, Jr., A.B., M.B.A., C.P.A.; Economics (Duke University).
Blackburn, William Maxwell, A.B., B.A., M.A., Ph.D.; English (Duke University).
Blomquist, Hugo Leander, B.S., Ph.D.; Botany (Duke University).
Bolmeier, Edward Claude, A.B., A.M., Ph.D.; Education (Duke University).
Bookhout, Cazlyn Green, A.B., A.M., Ph.D.; Zoology (Duke University).
Bowman, Francis Ezra, A.B., M.A., Ph.D.; English (Duke University).
Bradley, David G., A.B., M.A., B.D., Ph.D.; Religion (Duke University).
Bradsher, Charles Kilgo, A.B., M.A., Ph.D.; Chemistry (Duke University).
Brown, Chandler Wilcox, B.S.; Civil Engineering (Duke University).
Brown, Frances, A.B., Ph.D.; Chemistry (Duke University).
Cannon, James, III, A.B., A.M., Th.B., Th.M., D.D.; Religion (Duke University).
Carlitz, Leonard, A.B., A.M., Ph.D.; Mathematics (Duke University).
Carpenter, David William, A.B., A.M., Ph.D.; Physics (Duke University).
Carr, John Winder, Jr., A.B., A.M., Ph.D.; Education (Duke University).
Childs, Benjamin Guy, B.A., M.A.; Education (Duke University).
Cleland, James T., M.A., B.D., Th.M.; Religion (Duke University).
Clyde, Paul Hibbert, A.B., A.M., Ph.D.; History (Duke University).
Curtiss, John Shelton, A.B., A.M., Ph.D.; History (Duke University).
Cushman, Robert E., A.B., B.D., Ph.D.; Religion (Duke University).
Davis, Gifford, A.B., A.M., Ph.D.; Spanish (Duke University).
Dressel, Francis George, B.S., M.S., Ph.D.; Mathematics (Duke University).
Easley, Howard, A.B., M.A., Ph.D.; Education (Duke University).
Edgerton, Jesse Wilbert, B.S., M.A.; Psychology (Duke University).
Elliot, William Whitfield, B.A., M.A., Ph.D.; Mathematics (Duke University).
Gergen, John Jay, A.B., A.M., Ph.D.; Mathematics (Duke University).

Gohdes, Clarence, A.B., A.M., Ph.D.; English (Duke University).
Graham, Philip, A.B., A.M., Ph.D.; English (University of Texas).
Gray, Irving Emery, B.S., M.S., Ph.D.; Zoology (Duke University)
Greene, Lee Seifert, B.M., A.B., A.M., Ph.D.; Political Science (University of Tennessee).
Hamilton, William Baskerville, Jr., A.B., A.M., Ph.D.; History (Duke University).
Hart, Hornell Norris, A.B., M.A., Ph.D.; Sociology (Duke University).
Haupt, George W., B.S., M.A., Ph.D.; Education (Glassboro State Teachers College).
Hernández, Gustavo René, B.A., M.A.; Spanish (Birmingham-Southern College).
Hickson, Arthur Owen, A.B., A.M., Ph.D.; Mathematics (Duke University).
Highsmith, John Henry, A.B., A.M., Ll.D., D.Ed.; Education (Director of Instructional Service, North Carolina State Department of Public Instruction).
Hillman, James Elgan, B.S., A.M., Ph.D.; Education (Director of Professional Service, North Carolina State Department of Public Instruction).
Horn, Edward Charles, B.S., A.M., Ph.D.; Zoology (Duke University).
Hornaday, John A., A.B., A.M.; Psychology (Woman's College of the University of North Carolina).
Hornberger, Theodore, A.B., A.M., Ph.D.; English (University of Minnesota).
Hunter, Wanda Sanborn, Mrs., A.B., M.S., Ph.D.; Zoology (Duke University).
Hyldberg, Carl A., Jr., A.B., Ll.B.; Economics (Duke University).
Ingles, Thelma, R.N., B.A., M.A.; Nursing Education (Duke University).
Jensen, Howard Eikenberry, A.B., A.M., Ph.D.; Sociology (Duke University).
Joerg, Frederick C., A.B., M.B.A.; Economics (Duke University).
Johnson, Mychyle Wellington, A.B., Ph.D.; Zoology (Duke University).
Jordan, Arthur Melville, A.B., A.M., Ph.D.; Education (University of North Carolina).
Landon, Charles Edward, A.B., A.M., Ph.D.; Economics (Duke University).
Lanning, John Tate, A.B., A.M., Ph.D.; History (Duke University).
Layman, Emma McCloy, Mrs., A.B., M.A., Ph.D.; Education (Woman's College of the University of North Carolina).
Lemert, Ben Franklin, B.Sc. in Bus. Admin., M.A., Ph.D.; Economics (Duke University).
Lewis, Robert G., A.B., A.M., Ph.D.; French (Duke University).
Llerena, Mario, B.A., Doctor en Filosofía y Letras (Havana); Spanish (Duke University).
McKenzie, Lionel, A.B., M.A.; Economics (Duke University).
McLarty, Furman Gordon, A.B., B.A., A.M., Ph.D.; Philosophy (Duke University).
Maclean, Kenneth, A.B., Ph.D.; English (Victoria College).

MacMillan, Louis de Rosset, A.B., C.P.A.; Economics (Duke University). Manchester, Alan Krebs, A.B., A.M., Ph.D.; History (Duke University). Massey, Lucy, R.N., B.A., M.A.; Nursing Education (Duke University).
Mathewson, Franklin T., A.B., M.A., Ph.D.; Education (Supervisor of Audio-Visual Education, White Plains, N. Y., Public Schools).
Maxwell, William Cary, A.B., A.M., Ph.D.; German (Duke University). Monroe, Robert J., B.S., Pli.D.; Zoology (State College of North Carolina). Moser, Louise, R.N., A.B., M.N.; Nursing Education (Duke University). Myers, Hiram Earl, A.B., S.T.B., S.T.M.; Religion (Duke University). Najam, Edward W., B.A.; French (Duke University).
Negley, Glenns, A.B., Ph.D.; Philosophy (Duke University).
Nielsen, Walter McKinley, B.S. in E.E., Ph.D.; Physics (Duke University).
Novak, Benjamin J., B.S., M.Ed., Ed.D.; Education (Temple University).
Ostwalt, Jay Harold, A.B., A.M.; Education (Davidson College).
Patterson, Karl Bockman, A.B., A.M.; Mathematics (Duke University).
Patton, Lewis, A.B., Ph.D.; Engiish (Duke University).
Petry, Ray C., A.B., A.M., Ph.D., LL.D.; Religion (Duke University).
Phillips, James Henry, A.B., B.D., Ph.D.; Religion (Duke University).
Powell, William Allen, B.S.; Chemistry (Duke University).
Predmore, Richard Lionel, B.A., M.A. D.M.L.; Spanish (Duke University)
Proctor, Arthur Marcus, A.B., A.M., Ph.D.; Education (Duke University). Rankin, William Walter, Jr., B.E., M.A.; Mathematics (Duke University).
Ratchford, Benjamin Ulysses, B.S., A.M., Ph.D.; Economics (Duke University).
Reardon, Kenneth James, A.B., A.M.; English (Duke University).
Rees, Ennis, A.B., Ph.D.; English (Duke University).
Richards, Claude Henry, A.B., A.M., Ph.D.; Political Science (Duke University).
Roberts, Henry Stoutte, Jr., A.B., Ph.D.; Zoology (Duke University).
Roberts, John H., A.B., Ph.D.; Mathematics (Duke University).
Ropp, Theodore, A.B., A.M., Ph.D.; History (Duke University).
Rose, Jesse Lee, A.B., M.A., Ph.D.; Latin and Greek (Duke University).
Rudisill, Mabel, A.B., M.A., Ph.D.; Education (Duke University).
Rudolph, Victor John, B.S., M.F.; Forestry (Duke University).
Runkel, Howard W., B.A., M.A.; English (Duke University).
Saville, Lloyd, A.B., M.A.; Economics (Duke University).
Saylor, John Henry, A.B., A.M., Ph.D.; Chemistry (Duke University).
Schettler, Clarence Henry, A.B., A.M., Ph.D.; Sociology (Duke University).
Schumacher, Francis Xavier, B.S.; Forestry (Duke University).
Shaaber, Mathias A., A.B., A.M., Ph.D.; English (University of Pennsylvania).

Shields, John Herman, A.B., A.M.; Economics (Duke University).
Simmons, Edward Christina, A.B., A.M., Ph.D.; Economics (Duke University).
Slay, James Matthew, A.B., A.M.; Education (Duke University).
Smith, Dorothy, R.N., B.S., M.Ed.; Nursing Education (Duke University).
Smith, Robert Sidney, A.B., A.M., Ph.D.; Economics (Duke University).
Spengler, Joseph John, A.B., M.A., Ph.D.; Economics (Duke University).
Stumpf, Wippert A., B.S., A.M., Ph.D.; Education (Duke University).
Sydnor, Charles Sackett, A.B., Ph.D., Litt.D.; History (Duke University).
Thompson, Edgar Tristram, A.B., A.M., Ph.D.; Sociology (Duke University).
Torre, Elías, Bachillerato (Instituto Cardenal Cisneros), Bachillerato Uni-
versitario (Universidad de Madrid) ; Spanish (Rutgers University).
Truesdale, James N., A.B., A.M., Ph.D.; Greek (Duke University).
Travis, Martin B., A.B., A.M., Ph.D.; Political Science (Duke University).
Walton, Loring Baker, A.B., Lic. es L., Ph.D.; Romance Languages (Duke University).
Walton, Wesley W., B.S., M.Ed.; Education (Duke University). Ward, Charles Eugene, A.B., A.M., Ph.D.; English (Duke University). Watson, Richard L., Jr., A.B., Ph.D.; History (Duke University).
Welsh, Paul, A.B., Ph.D.; Philosophy (Duke University).
Whitridge, Eugenia R., Mrs., A.B., A.M., Ph.D.; Sociology (Duke University).
Wilder, Jesse H., B.S. in M.E., M.S.; Civil Engineering (Duke University).
Wilder, Pelham, Jr., A.B., M.A., Ph.D.; Chemistry (Duke University).
Williams, Louis G., A.B., A.M., Ph.D.; Botany (Furman University).
Wilson, Frederick Eliphaz, A.B., A.M.; German (Duke University).
Woody, Robert Hilliard, Ph.B., A.M., Ph.D.; History (Duke University).
Wright, Herbert F., A.B., A.M., Ph.D.; Psychology (University of Kansas).
Young, Franklin Woodrow, A.B., B.D., Ph.D.; Religion (Duke University).
Zener, Karl Edward, Ph.B., A.M., Ph.D.; Psychology (Duke University).

## DUKE UNIVERSITY SUMMER SESSION

Duke University, located at Durham, North Carolina, includes Trinity College, the Woman's College, the College of Engineering, the Graduate School of Arts and Sciences, the Divinity School, and the Schools of Law, Medicine, Nursing, and Forestry. The student body is drawn from the entire United States, with a representative group of foreign students.

## THE SUMMER SESSION PROGRAM: CREDITS

The Summer Session program is designed to serve:

1. Students now matriculated in the various schools and departments of Duke University, graduate and undergraduate, who wish to earn additional credits toward the completion of the work for their degrees.
2. Students matriculated in other colleges and universities who wish to earn credits to be transferred back to the school in which they are matriculated.
3. Graduates of accredited high schools and undergraduates with advanced standing who have been admitted to Duke University and who wish to enter upon their program of work in advance of the regular session.
4. Teachers in service who wish to earn credits for the renewal of their certificates, or to enter upon a program of work for an advanced degree, or to pursue certain courses which will contribute to the improvement of their teaching efficiency.
5. Candidates for the Master of Arts and Master of Education degrees who desire to complete degree requirements in a series of summers.

Professional credits towards teachers certificates are granted by the various state boards of education, each in accordance with its own carefully planned rules. Teachers in service, before enrolling for certification credit, should consult the rules laid down by their State Board of Education. If necessary, they should send to their State Board of Education a list of the courses in which they plan to enroll and inquire whether these will be acceptable for certification credit.

The normal courses in the Summer Session will meet daily, Monday through Friday, for an eighty minute period, throughout the term of six weeks. (Certain unit courses, particularly the beginning courses in English and the foreign languages, will meet twice daily. Elementary courses in the physical and natural sciences occupy a student's entire time daily and continue through a period of eight weeks, except Physics S51, S52 which will continue through ten weeks.) Each normal course carries a credit of three semester hours and two such courses constitute a full load for the student. No student is permitted to obtain credit for more than two such courses and no instructor teaches more than two. The maximum
credit allowed for Summer Session work is one semester hour per week spent in residence and work. The maximum credit allowed for the sixweeks term, therefore, is six semester hours. Laboratory courses which are extended to eight or ten weeks carry eight or ten semester hours of sredit.

Courses numbered 1-49 are primarily for Freshmen, or Freshmen and Sophomores. Courses numbered 50-99 are ordinarily for Sophomores, or Sophomores and Juniors. Courses numbered 100-199 are designed for Juniors and Seniors. Courses numbered 200-299 are planned for Seniors and graduates. Courses numbered from 300 up admit graduate students only and are of limited enrollment. Courses numbered from 200 up are usually limited in enrollment to approximately twenty-five students, and during the Summer Session consist almost entirely of graduate students. Graduate seminars are limited to fifteen students or fewer.

## ENROLLMENT IN THE SUMMER SESSION

The Summer Session makes available the facilities of Duke University to those persons who can use them to good advantage and for serious purposes. Candidates for degrees, graduate and undergraduate, will be admitted on the same basis as they are admitted to Duke University for work during the regular session. Applicants who do not desire to matriculate for a degree may be admitted as unclassified students upon presentation of satisfactory evidence that they are qualified to do satisfactory zoork in the courses which they may elect to pursue.

Undergraduates-Undergraduate students now enrolled in Trinity College or the College of Engineering should enroll for the Summer Session just as they do for classes in the regular year. They should go to the office of Dean H. J. Herring and obtain the proper blank for enrollment and have their programs approved when they enroll. Undergraduate students now enrolled in the Woman's College should obtain the enrollment blank from Dean Hazen Smith and have their programs approved by her.

Men who desire to enter Duke University, either as Freshmen or undergraduates with advanced standing, should make application to Dean H. J. Herring, Duke Station, Durham, N. C. Women desiring to enter either as Freshmen or undergraduates with advanced standing, should apply to Mrs. W. S. Persons, Chairman of the Committee on Admissions for the Woman's College, College Station, Durham, N. C.

Other undergraduates, men or women, Freshmen or upperclassmen, who desire to enter as unclassified students and who are already admitted or enrolled at another institution, should apply to Paul H. Clyde, Director of the Summer Session, Duke University, Durham, N. C. Students already matriculated in another institution should ask for the Course Approval Blank for use in securing the approval of the Dean of their school for the courses they elect and for use in transferring their credits back to the institution in which they are matriculated. Applicants who
are entering college for the first time should have the institution in which they will be enrolled for the regular year submit to the Director of the Summer Session a certificate of admission.

Teachers in service who do not hold a Bachelor's degree but desire to attend the Summer Session in order to earn credits towards the renewal or the advancement of their certificate and who do not wish to become candidates for a degree from Duke University should apply to Paul H. Clyde, Director of the Summer Session, Duke University, Durham, N. C., and have sent to him a transcript of their undergraduate college record. In some cases the presentation of their teaching certificate will be sufficient evidence for admission. Teachers who wish to matriculate for a Bachelor's degree will apply for admission to the appropriate persons as indicated in the preceding paragraphs.

Graduates-Applicants who wish to earn credits toward the renewal of their certificates or who wish to enroll for certain courses on the graduate level and who do not plan to matriculate for a graduate degree may be admitted to the Summer Session as unclassified graduate students. These should apply to Paul H. Clyde, Director of the Summer Session, Duke University, Durham, N. C., and should have sent to him a transcript of their undergraduate and previous graduate work. This is necessary in order that such students may be admitted to courses in which regularly matriculated graduate students are enrolled.

All applications for admission to the graduate school should be made as carly as possible in order to allow ample time for obtaining transcripts and for evaluating credentials. Decisions on applications that come in after June 1 in all probability cannot be reached until after the opening of the Summer Session.

## ADMISSION TO GRADUATE COURSES

Applicants who wish to matriculate for a graduate degree should apply directly to The Dean of the Graduate School, Duke University, Durham, N. C., for a graduate school application blank. When such applicants have been admitted, the Summer Session Director will send the proper blank for the reservation of a room and course enrollment.

After twelve semester hours of graduate work for which a student is registered in the Graduate School office, the student may apply for formal admission to the Graduate School, and thus become a candidate for the Master's degree. Such admission is dependent upon the fulfillment of two conditions. (1) The student must have made a mark of " $G$ " or "Good," in at least three semester hours of work, with no mark less than "S." Candidates who cannot meet this condition may at a later time submit their records for re-evaluation, provided that in their subsequent work they shall have made a substantial number of "G's."* (2)

[^53]The student in his undergraduate work must meet substantially the requirements for the A.B. or B.S. degree at Duke University. $\dagger$ Any deficiencies of undergraduate work must be satisfied before admission to the Graduate School. The graduate courses taken at Duke University prior to formal admission to the Graduate School will count toward a higher degree provided they are in accord with the requirements and are acceptable to the department of the student's major. A graduate student may be requested to withdraw from the University at the discretion of the Dean of the Graduate School.

## EXAMINATIONS

Final examinations in courses are held on the two last days of each term. Final examinations for short courses which occupy the student's complete program will be held on the last day of each course.

The qualifying examination for the Master of Education degree will be held on Saturday, July 8, 9:00 a.m. to 1:00 p.m., Room 2D, West Duke Building.

The comprehensive examination for the Master of Education degree will be arranged to suit the convenience of the students concerned in so far as is possible.

## FEES AND EXPENSES

A registration fee of $\$ 20.00$ is charged to all students carrying the normal program of six semester hours. When the program carried is four semester hours or less, the fee is $\$ 10.00$. The regular tuition fee is $\$ 8.00$ for each semester hour. Teachers in active full-time service in schools and colleges are, upon proper application, allowed a tuition scholarship rebate amounting to one-half of the regular tuition, for not more than four terms of six weeks within a period of six years. After their fourth term teachers pay regular tuition charges. (Application for this scholarship rebate should be made to the Director of the Summer Session in advance of registration.) Graduate students completing the work for the Master's degree in the Summer Session will pay a fee of $\$ 25.00$ for thesis supervision and/or for examinations. Because of the extra services rendered, a special fee of $\$ 10.00$ is charged students enrolled in the School of Spanish Studies, and a $\$ 10.00$ laboratory fee is charged students enrolled in the Marine Laboratory.

Major expenses for a six-weeks term are estimated as follows:
Registration . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 20.00$
Tuition (deduct $\$ 24.00$ for teachers in active service) ................... 48.00
Medical service ...................................................................... 3.50
Room-rent ................................................................ $\$ 30.00$ or 21.00
Board, estimated: ample $\$ 90.00$, minimum ................................. 60.00
Special fee for School of Spanish Studies or Marine Laboratory ........ 10.00
Books and class materials ........................................... $\$ 7.00$ to 10.00
Bus fare, laundry, and miscellaneous expenses range from ...... $\$ 9.00$ to 15.00
The minimum expenses for teachers who receive the scholarship rebate should be approximately $\$ 150.00$. Maximum expenses will range up to $\$ 200.00$ or possibly $\$ 225.00$.

[^54]
## THE SCHOOL OF SPANISH STUDIES

The ninth annual session of the School of Spanish Studies will be held during the first term, June 14 to July 22. The courses offered will include undergraduate work of the first three years and advanced oral Spanish, as well as graduate work in Spanish and Spanish-American literature. There will be liberal opportunity for speaking the language, hearing lectures, holding discussions, and attending evening programs all conducted in Spanish. Students of the School of Spanish Studies will live in the Residence, Southgate Hall on East Campus. Here only Spanish will be spoken. A private dining-room in the Residence will be used on all days except Sundays, when facilities will be available in the East Campus Union. A member of the staff or a native Spanish-American assistant will be assigned to each table to lead the conversation.

During the Summer Session courses in Spanish are given only in the School of Spanish Studies. An applicant, however, may register for one course in the School of Spanish Studies and another course in some other department. In this case the registrant is a member of the Spanish School student body and is privileged to live and eat in the Spanish House. When it appears necessary for such a student to live elsewhere. this may be arranged by permission of the Nirector of the School.

## INSTITUTE FOR TEACHERS OF MATHEMATICS

The Institute for Teachers of Mathematics will hold its tenth annual session August 7-18 inclusive. The theme of the Institute is "Mathematics at Work." There will be morning, afternoon, and evening meetings each day of the Institute. Applications of mathematics to current problems in industry and science will be stressed. Lecturers of recognized ability in industrial research and teachers of note have been secured. Approximately eight study groups will be arranged under the leadership of outstanding teachers.

The Mathematics Laboratory now being established at the University will provide helpful materials and suggestions for the members of the Institute. The registration fee will be $\$ 10.00$. Those who so desire may secure a room in the University dormitories at $\$ 1.50$ per day. Meals may be secured in the University dining halls, cafeteria style. A separate folder containing full details and program of the Institute will be ready for distribution about April 15. For further information write the Director of the Summer Session or W. W. Rankin, Director of the Mathematics Institute, Duke University, Durham, N. C.

## THE INSTITUTE OF NURSING EDUCATION

In addition to the courses in Nursing Education, this summer there will be held for the fourth year an Institute of Nursing Education. The Institute will be held for a period of one week, July 24-29. The program will deal with "Improving Nursing Care Through an Effective Clinical Teaching." Nurses who wish to attend the Institute should write to

Miss Dorothy Smith, Acting Director of the Division of Nursing Education, Duke Hospital, Durham, N. C., for an application blank. The fee for the Institute is $\$ 5.00$. A room may be secured in the nurses' residence hall at $\$ 1.50$ per day. Meals may be secured in the University dining halls, cafeteria style, at very reasonable prices. For detailed information write to the Director of the Summer Session, College Station, Durham, N. C.

## COURSES OF INSTRUCTION

This is a condensed description of courses. For a full description, see Bulletin of the Summer Session.

## BOTANY

1rofessor hugo l. blomquist, chairman-203 biology building (west campus) ; professor paul J. kramer, director of graduate studies- 04 brology building (west campus)
For admission to candidacy for the Master's degree in Botany, students must have completed a minimum of eighteen semester hours of biological science, incluaing six semester hours of Botany in courses numbered above 100. Students who have not yet had the minimum eighteen hours, however, may enter higher courses by permission of the instructor, if he is convinced that they can carry the work for undergraduate credit, and may count such work toward the eighteen hours necessary for candidacy:

S225. Special Problems.
Staff
S235. Introduction to Field Botany.-3 s.h.
Mr. Anderson
S236. Field Botany.-Prerequisite: S235 or equivalent. 3 s.h. Mr. Anderson

S359. Research. Staff
Courses following given at the Marine Laboratory, Beaufort, N. C. (Write for special bulletin of the Duke University Marine Laboratory.)

S211. Structure and Classification of Algae.-6 s.h. Mr. Williams

S225. Special Problems.
S359. Research.

Mr. Blomquist, Mr. Williams
Mr. Blomquist, Mr. Williams

## CHEMISTRY

PROFESSOR JOHN H. SAyLOR, EXECUTIVE OFFICER OF THE DEPARTMENT-115A chemistry building (west campus); professor warren c. vosbURGH, DIRECTOR OF GRADUATE STUDIES- 211 CHEMISTRY building (west campus)

S1. General Inorganic Chemistry.-4 s.h. Mr. Wilder
S2. General Inorganic Chemistry.-Prerequisite: Chemistry S1. 4 s.h. Mr. Powell

S61. Fundamentals of Analytical Chemistry.-Prerequisites: Chemistry 1-2 and Mathematics 6 or equivalent. 4 s.h. Mr. Saylor

S151. Organic Chemistry.-Prerequisite: Chemistry 61. 4 s.h.
Mr. Bradsher
S152. Organic Chemistry.-Prerequisite: Chemistry 151. 4 s.h.
Miss Brown
S275. Thesis Research.-2 to 8 s.b.
Staff

## ECONOMICS

PROFESSOR FRANK T. DE VYVER, EXECUTIVE OFFICER OF THE DEPARTMENT-203J SOCIAL SCIENCE BUILDING (WEST CAMPUS) ; PROFESSOR JOSEPH J. SPENGLER, DIRECTOR OF GRADUATE STUDIES- 322 LIBRARY bUILDING (WEST CAMPUS)

S51. Principles of Economics.-3 s.h.

S52. Principles of Economics.-3 s.h.
S57. Principles of Accounting.-3 s.h.
S58. Principles of Accounting.-3 s.h.
S103. Transportation.-3 s.h.
S115. Economic Geography: Teachers' Course.-3 s.h.

Mr. Saville
Mr. McKenzie
Mr. Simmons
Mr. MacMillan
Mr. MacMillan
Mr. Landon
Mr. Lemert

S116. Economic Geography and Industrial Organization.-3 s.h.
Mr. Lemert
S132. The Economic History of the United States.-3 s.h. Mr. Smirh
S143. Corporation Finance.-(Though not a prerequisite; Economics 5758, Principles of Accounting, is recommended to students electing this course.) $3 \mathrm{~s} . \mathrm{h}$.

Mr. Joerg
S144. Investments.-Prerequisite: Economics 57-58 and 143. 3 s.h.
Mr. Joerg
S153. Money, Credit, and Banking.-3 s.h.
Mr. Saville
S171. Advanced Accounting.-3 s.h.
Mr. Shields
S172. Advanced Accounting.-3 s.h.
Mr. Shields
S181. Business Law: Contracts, etc.-3 s.h.
Mr. Hyldburg
S182. Business Law: Partnerships, etc.-3 s.h.
Mr. Hyldburg
S199. Economic Analysis.-3 s.h.
Mr. McKenzie
S204. Monetary and Banking Theory.-3 s.h.
Mr. Simmons
S217. Population Problems and Resources.-3 s.h.
Mr. Spengler
S231. The Economic History of Europe.-3 s.h.
Mr. Smith
S234. Federal Finance.-Prerequisite: Economics 187 or consent of instructor. 3 s.h.

S236. Public Finance.-3 s.h.
RATCHFORD

S265. International Trade and Finance.-3 s.h.
Mr. Ratchford
Mr. Spengler
S275. Advanced Industrial Accounting and Management.-Prerequisite: Economics 171-172 and permission of the instructor. 3 s.h. Mr. Black

S276. Advanced Industrial Accounting and Management.-Prerequisite: Economics S275. 3 s.h.

Mr. Black
S318X. Thesis Seminar.
Mr. Landon

## EDUCATION

PROFFSSOR A. M. PROCTOR, ACTING CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES - 1 c 2 west duke building (EASt CAMPUS)

PUBLIC SCHOOL ADMINISTRATION (GRADUATE COURSES)
In this division, Master's candidates will elect their minor work in Political Science, Economics, or Sociology. Candidates for the Master of Education degree, in addition to the twelve semester hours of the four basic courses, must take twelve semester hours of work from the courses specifically listed under this division or approved by the adviser. (The basic courses are: S204, S210, S217, and S235.)

S203. Principles of School Administration.-3 s.h. Mr. Bolmeier
S213. Problems in the Organization and Administration of Elementary Schools.-3 s.h.

Mr. Proctor
S234. Secondary School Organization and Administration.-3 s.h.
Mr. Bolmeier
S283. School Plant Planning.-3 s.h.
Mr. Proctor
S323. Public School Finance.-3 s.h. Mr. Stumpf
S343. State and County School Administration.-3 s.h. Mr. Stumpf
S363. City School Organization and Administration.-3 s.h. Mr. Proctor
S300X. Thesis Seminar.-3 to 6 s.h.
Staff

## PUBLIC SCHOOL SUPERVISION (GRADUATE COURSES)

In this division, Master's candidates will elect their minor work in Psychology or an approved combination with Educational Psychology, or in Sociology. Candidates for the Master of Education degree, in addition to the twelve semester hours of the four basic courses, must take twelve semester hours of work from the courses specifically listed under this division or approved by the adviser. They may take six to nine semester hours of work in their minor.

S204. The School as an Institution.-3 s.h.
Mr. Bolmeier
S208A. Mental Tests and Applications.-Prerequisite: Education S258 or six semester hours of other work in educational psychology or psychology. 3 s.h. Mr. Easley

S222. The Curriculum and Materials of the Elementary Grades. $\mathbf{3}$ s.h.
Mr. Hillman
S232. Public School Supervision.-3 s.h.
Mr. Highsmith and Mr. Hillman
S235. The Nature, Function, and Reorganization of the Curriculum. 3 s.h.

Mr. Carr
S237. The Psychology and Teaching of Reading.-3 s.h. Miss Rudisill
S238. Remedial Reading-Principles and Practice.-A basic course in the psychology or teaching of reading is prerequisite, or Education S237 may be taken simultaneously. 3 s.h.

Miss Rudisill
S245. Principles of Guidance.-3 s.h.
Mr. Novak
S255. Guidance and the Classroom Teacher.-3 s.h.
Mr. Novak
S273. Problems of High-School Supervision.-3 s.h.
Mr. Highsmith
S275. The Administration of the Audio-Visual Program. -3 s.h.
Mr. Mathewson
S285. The Preparation of Projected and/or Recorded Instructional and Public Relation Material.-3 s.h.

## S287. Problems of Mentally and Educationally Retarded Children.-3 s.h. Mrs. Layman <br> S288. Problems of Mental Hygiene and Education.-3 s.h. Iirs. Layman S372X. Thesis Seminar.-3 to 6 s.h. Stafy

SECONDARY EDUCATION (GRADUATE COURSES)
In this division, Master's candidates will elect their minor work in their teaching subject, or in Psychology or Sociology. Candidates for the Master of Education degree are required to elect their minor work in their teaching subject and all of their work in Education must come from courses listed in this division.

S204. The School as an Institution.-3 s.h.
Mr. Bolmeier
S206. Sociological Foundations of Secondary Education. - 3 s.h.
Mr. Childs
S215. Educational and Vocational Guidance.-3 s.h.
Mr. Childs
S216. Psychological Principles of Secondary Education.-3 s.h.
Mr. Childs
S225. The Teaching of History and the Social Studies. -3 s.h.
Mr. Manchester
S234. Secondary School Organization and Administration.-3 s.h.
Mr. Bolmeier
S246. The Teaching of High-School Mathematics.-3 s.h. Mr. Rankin
S276. The Teaching of High-School Science.-Prerequisite: at least eighteen semester hours of science in college. 3 s.h. Mr. Haupt

S334X. Thesis Seminar in Secondary Education.-3 s.h. Mr. Childs

## ELEMENTARY EDUCATION (GRADUATE COURSES)

In this division, Master's candidates should take their minor work of six semester hours in Psychology, Educational Psychology, or an approved combination of the two, or in Child Welfare and Development-wholly in Sociology, or partly Sociology and Psychology, or Educational Psychology, if a satisfactory combination can be worked out. Master of Education candidates in this division must take fifteen semester hours of work described or listed under Elementary Education.

S204. The School as an Institution.-3 s.h.
Mr. Bolmeier
S208A. Mental Tests and Applications.-Prerequisite: Education S258 or six semester hours of other work in educational psychology or psychology. 3 s.h.

Mr. Easley
S212. Psychology of the Elementary School Subjects.-3 s.h. Mr. Carr
S213. Problems in the Organization and Administration of Elementary Schools.-3 s.h.

Mr. Proctor
S217. The Psychological Principles of Education.-3 s.h. Mr. Jordan
S222. The Curriculum and Materials of the Elementary Grades. -3 s.h.
Mr. HLllman
S232. Public School Supervision.-3 s.h.
Mr. Highsmith and Mr. Hillman
S237. The Psychology and Teaching of Reading.-3 s.h. Miss Rudisill

S238. Remedial Reading-Principles and Practice.-A basic course in the psychology or teaching of reading is prerequisite, or Education S237 may be taken simultaneously. 3 s.h. Miss Rudisill

S267. The Teaching of Science in the Elementary School.-3 s.h.
Mr. Haupt
S287. Problems of Mentally and Educationally Retarded Children.-3 s.h.
Mrs. Layman
S288. Problems of Mental Hygiene and Education.-3 s.h. Mrs. Layman
S337X. Thesis Seminar in Elementary Education.-3 s.h.
educational psychology (Graduate courses)
The Master of Education degree is not offered in this division. Master of Arts candidates should choose Psychology for their minor subject. It will be observed that certain of the courses listed under Educational Psychology are also listed under Supervision, Secondary Education, or Elementary Education.

S208A. Mental Tests and Applications.-Prerequisite: Education S258 or six semester hours of other work in educational psychology or psychology. 3 s.h. Mr. Easley

S210. Introduction to Educational Research.-3 s.h.
Mr. Stumpf
S216. Psychological Principles of Secondary Education.-3 s.h.
Mr. Childs
S217. The Psychological Principles of Education.-3 s.h. Mr. Jordan
S227. The Psychology of Learning: Problems.-3 s.h. Mr. Easley
S237. The Psychology and Teaching of Reading-3 s.h. Miss Rudisill
S238. Remedial Reading-Principles and Practice.-A basic course in the psychology or teaching of reading is prerequisite, or Education S237 may be taken simultaneously. $3 \mathrm{~s} . \mathrm{h}$. Miss Rudisill

S287. Problems of Mentally and Educationally Retarded Children.-3 s.h. Mrs. Layman
S288. Problems of Mental Hygiene and Education.-3 s.h. Mrs. Layman S317X. Thesis Seminar.-3 s.h.

Staff

## UNDERGRADUATE COURSES

(By permission Seniors may enter graduate courses numbered below 300. Attention is called to the fact that toward the A.B. degree not more than six semester hours of method courses are allowed to count.)

S84. Social Foundations of Education.-3 s.h.
Mr. Slay
S88. Psychological Foundation of Modern Education.-3 s.h.
Mr. Ostwalt
S103. Organization and Management of the School.-3 s.h. Mr. Walton COURSES in nursing education
S192N. Principles and Methods of Teaching in Schools of Nursing. 3 s.h.

S193N. Ward Administration and Teaching.-3 s.h. Miss Ingles
S195N. Personnel Work in Schools of Nursing.-3 s.h.
S84N. Social Foundations of Nursing Education.-3 s.h. Miss Ingles
S117N. Community Nursing.-3 s.h. Miss Massey
S130N. Psychosomatic Nursing.-3 s.h.
Miss Moser

## ENGINEERING

professor william holland hall, dean of the college of engineering- 135 ENGINEERING BUILDING
G.E. S107. Strength of Materials.-Prerequisite: course 57. 3 s.h. Mr. Wilder
G.E. S128. Hydraulics.-Prerequisite : course G.E. 57. 3 s.h.

Mr. Wilder
C.E. S110. Plane Surveying.-Prerequisites: G.E. 1 and trigonometry. 4 s.h.

Mr. Brown

## ENGLISH

professor william h. irving, chairman-2G5 west duke building (east CAMPUS) ; PROFESSOR PAULL F. BAUM, DIRECTOR OF GRADUATE STUDIES402 Library building (West campus)

S1. English Composition.-3 s.h.
S2. English Composition.-3 s.h.
S55. Representative English Writers.-3 s.h.
S56. Representative English Writers.-3 s.h.
S114. The Teaching of Speech.-3 s.h.
S119. History of the Theatre.-3 s.h.
S121. Play Production.-3 s.h.
S125. English Literature, 1789-1832.-3 s.h.
S151. Essentials of Public Speaking.-3 s.h.
S156. Modern British and American Drama.-3 s.h.
S157. Contemporary Fiction.-3 s.h.
S220. Literature of the Eighteenth Century.-3 s.h.
S221. Romantic Literature.-3 s.h.
S229. American Literature, 1800-1870.-3 s.h.
S230. American Literature, 1800-1870.-3 s.h.
S233. American Literature since $1870 .-3$ s.h.
S234. American Literature since 1870.-3 s.h.
S237. English Drama, 1642-1800.-3 s.h.
S238. Shakespeare.-3 s.h.
S243. History of the English Language.-3 s.h.
S251. English Literature in the Seventeenth Century.-3 s.h.
S308X. Seminar in American Literature.
S349X. Seminar in English Literature.
FORESTRY
PROFESSOR CLARENCE F. KORSTIAN, DEAN OF THE SCHOOL OF FORESTRY AND DIRECTOR OF GRADUATE STUDIES- 307 SOCIAL SCIENCE BUILDING
(WEST CAMPUS)
C.E. S110. Plane Surveying.-Prerequisites: G.E. 1 and trigonometry. 4 s.h.

S150. Forest Surveying.-Prerequisites: Civil Engineering, S110 Plane Surveying, or equivalent. 5 s.h.

Mr. Rudolph
S151. Forest Mensuration.-4 s.h.
Mr. Schumacher
S357. Research in Forestry.-2 to 12 s.h.
Staff

## FRENCH

professor b. r. Jordan, chairman of the department of romance languages - 214 Carr building (east campus)

S1. Elementary French.-3 s.h.
Mr. Najam
S2. Elementary French.-3 s.h.
Mr. Najam
S3. French Prose.-Prerequisite: French S1-S2 or two years of highschool French. 3 s.h.

Mr. Lewis
S4. French Prose.-Prerequisite : French S3. 3 s.h.
Mr. Lewis
S51. Introduction to French Literature.-Prerequisite: French 3-4 or equivalent. 3 s.h.

Mr. Archie
S52. Introduction to French Literature.-Prerequisite: French 51 or equivalent. 3 s.h. Mr. Archie

## GEOLOGY

S51. General Geology.-4 s.h.
Mr. Berry
S52. General Geology.-4 s.h. Mr. Berry

GERMAN
professor clement vollmer, chairman-106a social science building (west campus)
Si. Elementary German.-3 s.h. Mr. Maxwell
S2. Elementary German.-3 s.h. Mr. Maxwell
S3. Intermediate German.-3 s.h.
Mr. Wilson
S4. Intermediate German.-Prerequisite: German 3. 3 s.h. Mr. Wilson

## GREEK

S121. Greek Literature: Homer.-3 s.h.
Mr. Truesdale
S122. Greek Literature: The Tragic Poets.-3 s.h.
Mr. Truesdale

## HISTORY

professor william t. laprade, chairman and director of graduate studies - 2 B west duke building (east campus)

For admission to candidacy for a Master's degree in History, the student must present a total of eighteen semester hours of prior work in History, of which at least six must be in American History if he plans to take his major work in that field. Before enrolling for thesis supervision, candidates for the Master's degree are required to complete at least three semester hours of seminar work and are strongly urged to enroll for this work in the second term of their attendance in the Summer Session.

S51. Historical Background of the World Today 1500-1871.-3 s.h.
Mr. Hamilton
S52. Historical Background of the World Today 1871-1949.-3 s.h.
Mr. Ropp

S91. The Development of American Democracy to $1865 .-3$ s.h. Mr. Watson
S113. America in the Twentieth Century.-3 s.h. Mr. Watson
S232. The Hispanic American Republics.-3 s.h. Mr. Lanning
S235. War in the Modern World.-3 s.h.
Mr. Ropp
S236. The South from 1877 to the Present.-3 s.h.
Mr. Sydnor
S262. Russia in the Twentieth Century.-3 s.h. Mr. Curtiss
S263. American Colonial History and the Revolution, 1606-1783.-3 s.h. Mr. Woody
S270. The History of England from the Accession of the Tudors to Vic-toria.-3 s.h. Mr. Hamilton
S315. Seminar in Southern History.-3 s.h.
Mr. Sydnor
Mr. Woody
S321. Seminar in the History of the Spanish-American Colonies.3 s.h. Mr. Lanning
S363. Seminar in Recent Russian History.-3 s.h. Mr. Curtiss

## LATIN AND ROMAN STUDIES

S111. Roman Literature in English Translation.-3 s.h.
Mr. Rose
S112. Roman Literature in English Translation.-3 s.h.
Mr. Rose

## MATHEMATICS

PROFESSOR J. J. GERGEN, CHAIRMAN-220 PHYSICS BUILDING (WEST CAMPUS) ; PROFESSOR J. H. ROBERTS, DIRECTOR OF GRADUATE STUDIES -

219 PHYSICS BUILDING (WEST CAMPUS)
For admission to candidacy for the degree of Master of Arts with major in Mathematics, a student must have a minimum of twenty-four semester hours credit for course work in Mathematics and related fields. This course work must be approved by the Department through the Director of Graduate Studies. It must include differential and integral calculus and an additional six semester hours of work in mathematical courses of at least Junior level.

Solid Geometry.-0 s.h.
Mr. Elliott
S5. College Algebra.-3 s.h.
Mr. Rankin
S6. Plane Trigonometry.-3 s.h.
Mr. Hickson
S50. Plane Analytic Geometry.-Prerequisite: Mathematics S5 and S6. 3 s.h.

Mr. Patterson
S51. Calculus I.-Must be preceded or accompanied by Mathematics S50. 3 s.h.

Mr. Patterson
S53. Calculus III.-Prerequisite: Mathematics 52. 3 s.h. Mr. Dressel S224. Mathematical Statistics.-Prerequisite Calculus. 3 s.h.

Mr. Gergen
S258. Finite Differences.-Prerequisite: Calculus. 3 s.h. Mr. Carlitz
S259. Solid Analytic Geometry.-Prerequisite: Calculus. 3 s.h.
Mr. Dressel
S291. Theory of Functions.-Prerequisite: Calculus. 3 s.h. Mr. Gergen
S292. Theory of Functions.--Prerequisite: S291. 3 s.h. Mr. Roberts
S389X. Thesis Seminar.
Mr. Carlitz

MEDICINE
Medical Mycology.
Dr. Conant

## PHILOSOPHY

PROFESSOR GLENN NEGLEY, CHAIRMAN-3-I WEST DUKE BUILDING (EAST CAMPUS): PROFESSOR R. L. PATTERSON, DIRECTOR OF GRADUATE STUDIES-3-I WEST dUKE bUilding (EAST CAMPUS)
S48. Logic.-3 s.h.
Mr. Welsh
S94. History of Modern Philosophy.-3 s.h.
Mr. McLarty
S99. Fundamentals of Christian Morality: An Introduction to Christian Ethics.-3 s.h.

Mr. McLarty
S109. Semantics.-3 s.h.
Mr. Welsh
S208. Political Philosophy.-3 s.h.
Mr. Negley
S216. American Philosophy.-3 s.h.
Mr. Negley

## PHYSICS

professor walter m. nielsen, chairman- 119 physics building (west CAMPUS) ; professor L. W. Nordheim, director of graduate studies209 physics building (west campus)
S51. General Physics.-Prerequisite: Mathematics 2-5 or equivalent. 5 s.h. Mr. Carpenter

S52. General Physics.-Prerequisite: Physics S51. 5 s.h. Mr. Carpenter
S101. Intermediate Physics.-Prerequisites: Physics 1-2 or 51-52 or equivalent, and a course in differential and integral calculus which may be taken concurrently. 4 s.h.

Mr. Nielsen
S102. Intermediate Physics.-Prerequisite: S101. 4 s.h.
Mr. Nielsen
S353X. Thesis Seminar.
Staff

## POLITICAL SCIENCE

PROFESSOR ROBERT S. RANKIN, CHAIRMAN-308 LIBRARY (WEST CAMPUS) ; PROFESSOR R. R. WILSON, DIRECTOR OF GRADUATE STUDIES- 311 LIBRARY (WEST CAMPUS)
S61. American Government and Politics.-3 s.h.
Mr. Travis
S62. American Government and Politics.-3 s.h.
Mr. Richards
S141. Public Regulation.-3 s.h.
S152. Latin-American Political Institutions.-3 s.h.
S224. Modern Political Theory.-3 s.h.
S231. American Political Theory.-3 s.h.
S241. National Administration.-3 s.h.
S247. Regulatory Administration.-3 s.h.

Mr. Richards
Mr. Travis
Mr. Bennett
Mr. Bennett
Mr. Greene
Mr. Greene

## PSYCHOLOGY

professor donald k. adams, chatrman-201 bivins building (east campus);
PROFESSOR KARL ZENER, DIRECTOR OF GRADUATE STUDIES-205 SCIENCE BUILDING (EAST CAMPUS)
For admission to candidacy for a Master's degree in psychology the student must present a total of twelve semester hours in psychology beyond the introductory course, at least six semester hours of which must be taken in Senior-Graduate courses. In addition he must have credit for Zoology 1-2 or equivalent.

S91-92. General Psychology.-6 s.h.
Mr. Edgerton
Mr. Hornaday
Mr. Zener
Mr. Wright
S206. Social Psychology.-3 s.h.
S207. Psychology of Memory, Thinking, and Perceiving.-3 s.h.
Mr. Zener
S215. Developmental Psychology.-3 s.h.
Mr. Wright
Thesis Seminar.
Mr. Adams

## RELIGION

PROFESSOR HAROLD A. BOSLEY, DEAN OF THE DIVINITY SCHOOL- 110 DIVINITY SCHOOL (WEST CAMPUS) ; PROFESSOR H. E. MYERS, CHAIRMAN OF THE department of religion- 204 divinity school (west campus) ;

PROFESSOR H. SHELTON SMITH, DIRECTOR OF GRADUATE STUDIES
-302 dIVINITY SCHOOL (WEST CAMPUS)
S51. The History of the Hebrew People.-3 s.h.
Mr. Bradley
Mr. Myers
S52. New Testament Life and Literature.-3 s.h.
Mr. Bradley
Mr. Phillips
N.T. S106. The Interpretation of the Fourth Gospel.-3 s.h.

Mr. Young
S114. The Life and Teachings of Jesus. -3 s.h.
Mr. Myers
C.H. S138. Great Books in Christian History.-3 s.h.

Mr. Petry
S167. Contemporary Religious Problems.-3 s.h.
Mr. Phillips
S181. The Nature and Early Development of Religion.-3 s.h.
Mr. Cannon
S182. Living Religions of the World.-3 s.h.
Mr. Cannon
Pr. S184. Preaching Values in the Pauline Epistles.-3 s.h. Mr. Cleland
O.T. S301. The Religious Thought of Post-Exilic Judaism.-3 s.h.

Mr. Young
C.T. S321. Platonism and Christianity.-Prerequisite: six hours in Introduction to Philosophy. 3 s.h.

Mr. Cushman
C.T. S328. Twentieth-Century Continental and British Theology.-3 s.h. Mr. Cushman
C.H. S330. The Church in Europe since 1800.-3 s.h.

Mr. Petry

## SOCIOLOGY

PROFESSOR HOWARD E. JENSEN, CHAIRMAN-215D SOCIAL SCIENCE BUILDING
(WEST CAMPUS) ; PROFESSOR HORNELL HART, DIRECTOR OF GRADUATE STUDIES-215d SOCIAL SCIENCE BUILDING (WEST CAMPUS)
S101. General Sociology.-3 s.h. Mrs. Whitridge
Note: Attention is called to the fact that Sociology 91-92, or 101, or 111
or 112 is prerequisite to all the following courses in the Department.
S191. Principles of Social Case Investigation.-3 s.h. Mrs. Whitridge
S233. Rural Sociology.-3 s.h.
Mr. Thompson
S238. Race and Culture. -3 s.h.
S243. Social Attitudes and Collective Behavior.-3 s.h.
S246. Public Opinion and Propaganda.-3 s.h.
S249. Child Welfare.-3 s.h.
S250. Marriage and the Family.-3 s.h.
S276. Criminology.-3 s.h.
S286. Social Ethics.-3 s.h.
S382. History of Sociological Theory.-3 s.h.

Mr. Thompson
Mr. Schettler
Mr. Schettler
Mr. Jensen
Mr. Hart
Mr. Jensen
Mr. Hart
Mr. Jensen

## SPANISH

PROFESSOR BRADY R. JORDAN, CHAIRMAN OF DEPARTMENT OF ROMANCE LANGUAGES AND DIRECTOR OF GRADUATE STUDIES-214 CARR BUILDING (EAST CAMPUS); ASSOCIATE PROFESSOR GIFFORD DAVIS, DIRECTOR OF THE SCHOOL OF SPANISH STUDIES-213 CARR BUILDING (EAST CAMPUS)
S1. Beginning Spanish.-3 s.h.
Mr. Llerena
S2. Beginning Spanish.-3 s.h.
Mr. Llerena
S3. Intermediate Spanish.-3 s.h.
Mr. Davis
S4. Intermediate Spanish.-3 s.h.
Mr. Hernández
S65. Introduction to Modern Spanish Literature.-3 s.h.
Mr. Torre
S68. Introduction to Spanish-American Literature.-3 s.h.
Mr. Hernández
S174. Phonetics and Diction.-3 s.h.
Mr. Predmore
S256. Great Modern Poets of Hispanic America.-3 s.h.
Mr. Balsetro
Mr. Bal.setro
Mr. Predmore

## ZOOLOGY

professor irving e. gray, chairman-218 biology building (west campus) :
PROFESSOR KARL M. WILBUR, DIRECTOR OF GRADUATE STUDIES-
328 biology building (WEST CAMPUS)
For admission to candidacy for a Master's degree in Zoology, a student should have completed an undergraduate major in Zoology (courses in General Science and Botany are not counted as a part of a Zoology major).

S1. General Zoology.-4 s.h.
Mrs. Hunter

S92. General Embryology.-Prerequisite: Zoology 53. 4 s.h.
Mr. Johnson
S225-S226. Field Zoology.-3 or 6 s.h.
Mr. Bailey
S353. Research.
Staff
S203. Marine Ecology.-6 s.h.
Mr. Gray
S211. Quantitative Biology.-4 s.h.
Mr. Monroe
S274. Marine Invertebrate Zoology.-6 s.h.
Mr. Bookhout
S353. Research.
Mr. Gray and Mr. Bookhout

## DUKE UNIVERSITY

## DEGREES AND HONORS CONFERRED

(1950)

## ROLL OF STUDENTS

 (1949-1950)Trinity College and the College of Engineering
The Woman's College
The Graduate School of Arts and Sciences
The Divinity School
The School of Law
The School of Medicine
The School of Nursing
The School of Forestry

# DEGREES AND HONORS COFERRED (1950) 

## A.B. DEGREE

Abbott, William Franklin, Jr. Abe, Jack MacDonald
Alberts, Nancy Martin
Alexander, Charles Thomas, Jr.
Allen, Helen Elizabeth
Allen, Richard Milton
Alley, Nancy Milburn
Allin, Jamer Lander, Jr.
Allred, Roger Howard
Alyea, Jane Dinsmore
Anderson, Barbara Jean
Aycock, Ezra Kenneth
Ayers, Milton Edward
Bailey, Marilyn Virginia
Baker, F. Richard
Ball, Rebecca Temple
Baptiste, Ronald Philip
Barber, Harold Robert, Jr.
Barden, Charles Stanford, Jr.
Barnard, Bruce Donald
Barnes, Donald Bishop
Barnes, Sidney Edwin
Barnes, Wallace Ray
Barrell, Cynthia
Barron, Josephine Marie
Batten, John Edward, III
Baum, Edwin Forster
Baynes, James Rufus
Baynes, Walter Wright, Jr.
Bean, William R
Bedell, Pamela Joann
Bennett, David G.
Bergman, Barbara Beal
Bergstrom, Jack W.
Bethea, Frances Margaret
Bibb, Marion Almy
Bird, Jack Harold
Bird, Jocelyn Ann
Blackmon, Stephen K.
Blair, Elizabeth Watkins
Blaydes, Boyd
Blount, Gerald Rowden, Jr.
Boehling, William Anthony
Boger, John Ray, Jr.
Borden, Windsor John
Bostwick, Betty Aldridge
Botkin, Janet Faye
Bowers. Ruth Elizabeth
Bracken, Nancy Anne
Brady, Barbara Elaine
Brandt, Leroy Milton
Branham, John Thomas, Jr.
Brash, Patricia Edna
Bratton, Mary Lou
Brawley, James O., Jr.
Brewer, Charles Lindsey
Britt, Clyde Lee
Broderson, Robert Maurice
Brose, Constance Clayton
Brown, Clarence Fleetwood, Jr.
Brown, Edward B.
Brown, Elizabeth Jean
Bruce, Logan Lithgow
Brumit, Horace Clarence
Bryant, Clyde Vernon
Burdick, Alan Terrill
Burns, Franklin Kent
Burns, Joan Arlene

Burrell, Eugene John, Jr.
Butner, Oliver Leo, Jr.
Byrd, James Samuel
Cagle, Clarence Burder
Cahow, Clark R.
Caldwell, Chester Abbott, Jr.
Callaham, Betty Elgin
Callihan, Carolyn
Capsalis, Aggie Manuel
Carr, Frederick LaMont
Cata, Paul James
Caveness, Betty Jean
Chambers, Thomas H., Jr.
Childers, Carolyn Jean
Chivers, Jane Carter
Christner, Howard H., Jr
Chritton, Ernest F., Jr.
Clardy, Will J., Jr.
Clark, LaFrederick Russell
Clark, Robert Willard
Clary, Guy Willis
Claughton, Edward Napoleon, Jr.
Coady, James Malcolm
Cobetto, Jack Bernard, Jr.
Coble, Russell Cooke, J J.
Coffee, Robert Lee
Coleman, Elizabeth Heat
Collins, Ira Taylor, Jr.
Collins, Roland Castex
Constantine, Thomas Moore
Conway, William Frederick
Cookerly, Thomas Bourne
Cooper, Charles Staples
Cooper, Joseph S.
Cope, William Warren
Copeland, Isaac Mathias, J r.
Cox, Mary Annelle
Craddock, John Goodwin, Jr.
Craun, Dwight Marvin
Crevasse, Lamar Earle, Jr.
Crigler, Benner Bittinger
Criswell, Howard D., Jr.
Cromer, DeWitt Bynum
Crook, Cordylia Louise
Crook, James Rutland, Jr
Crowe, Charles Lawson
Cruthers, Barbara Alice
Culbreth, Mary Helen
Dabbs, Thomas M.
D'Alonzo, Albert Floyd
Dark, Robert Hanner
Davidson, Florence Hickman
Davis, Ann
Davis, Arnold Van Osdal
Davis, James Howell
Davis, Robert Brandon, Jr.
Dawes, Mary Josephine
Dayton, Charles Cary
Deaton, Peggy Jane
DeCosier, Linton Henry
DeLaughter, George Dewey, Jr.
DePass, Skottowe Wannamaker
De Vore, Robert Newton
Dickerson, John William
Doescher, Richard E.
Donovan, John Smith
Dorton, John Pete
Draughon, Donald Ray

Driver, Tom Faw
Duncan, Robert A.
Dundas, Elgiva Ruth
Dunhain, Donnell Paul
Dunson, Sanford Allen
Dye, Robert Eugene Eason, Julian Kenneth
Eaves, George W.
Edens, John Clarence
Edwards, Lucinda
Eisenberg, Lloyd
Elias, William Siler
Elliott, Stuart Whitfield
Ellsworth, John Charles
Elmore, Isabel Joselyn
Esposito, Robert Vincent
Evans, Patricia Suzanne Fakkema, Robert Edward
Farno, Glenn Anderson
Farrington, Nancy
Ferrell, Elizabeth Harris
Ferres, Walter Dean, III
Finley, Frances Fay
Finter, Mary Fae
Fisher, Lucia Elodia
Fisher, William David
Flanders, Luck Coleman
Floyd, Daniel Justin
Fogle, Richard Dewitt
Folckemer, Clarence Edward
Ford, Harold Edwin
Forquer, Elizabeth Foscue
Frady, Andrew Hampton, Jr.
Franklet, Margaret Louise
Frazee, Mildred Evelyn
Freeman, James Thomas
Friedman, Fred Joachim
Friend, Barbara Maynard
Fry, Ray MacNairn
Frye, Jerry L.
Gale, Glen Roy
Gano, Sarah Ann
Garceau, Arthur Joseph
Gardner, Samuel W., Jr.
Gerber, Beverly Janice
Gessner, Lawrence Karst
Gitlin, Leon Samuel
Glaze, John William, Jr.
Glazer, Jack Henry
Glenn, Marvin Thomas
Glenn, Samuel Bailey, Jr.
Glover, Marion Lee
Goettel, Gerard Louis
Goode, Isolee Gile
Gordon, Sam
Gould, Kenneth George, Jr.
Graham, Fredrick William, Jr.
Gramling, Mary Josephine
Gray, William James
Greco, John
Green, Constance Clar
Greenleaf, Thomas Raymond
Griffith, William J., III
Gubbins, Clarence Paul, Jr.
Gullett, George Harris, Jr.
Gwyn, Julius Johnson
Habenicht, Betty May
Hammer, William H.
Hampton, William Robert
Hancock. Jonathan Howard
Hanes, Phillip Franklin, Jr.
Hanson, Lorelei O'Connor
Harkey, Mary Mincey
Harlow, Ann Katharine
Harman, Alonzo Lincoln
Harper, Clyde Wallace
Harrell, Lell Warren
Harrill, James Clinton
Harris, Clinton Ross

Harris, Martha Catherine
Hauser, Robert Edward
Hautamaki, Edward William
Hawkins, James Robert
Hayes, Carlyle B.
Haynes, Virginia
Heiss, Howard Conrad, Jr.
Helseth, Emily Ananda
Hendricks, Joyce
Hendrix, Thomas Lynch
Henkel, Lee Hampton, Jr.
Henninger, Catherine Grace
Henry, John F.
Highsmith, Albert Wagstaff
Hinson, Margaret Ferrell
Hipps, Herbert Greene
Hobbs, Lois Dean
Hofsommer, Armin Conrad
Hogan, Joseph Herbert
Holland, Claude Douglas
Holland, Nancy York
Hollar, Homer C.
Holloway, Benjamin Duke
Holzinger, George Cherot
Homan, Henry Harbach
Hooker, Nancy Bonner
Horton, Mary Moore
House, Winfred Jackson
Howell, David Gist, Jr.
Hubbard, Edward Earl
Hubbard, Robert Carl
Huchingson, Eurlene Virginia
Hudson, John Grier, Jr.
Huffines, Dewey Hobson, Jr.
Hull, James Franklin, Jr.
Hull, Jean
Humphrey, Earl Lester, Jr.
Huyler, Phyllis Cynthia
Ingwersen, Mary
Insch, Paul Henry
Irvin, Glenn Fosdick
Irwin, Dwight M.
Ivey, Mary Clare
Izlar, Ellen Ross
Jackson, Mary Isabel
James, Eleanor Micheaux
Jennings, Clark William, Jr.
Johnson, Beatriz Amparo
Johnson, Charles Buchanan
Johnson, Elaine Bernice
Jones, Charles David
Jones, Charles Ray
Jones, Darrell Shaw, Jr.
Jones, Loring Shaffer, Jr.
Jones, Margaret Griffith
Jouannet, Francis Lionel, Jr.
Kellam, Anne Goffigan
Kellam, Floyd E., Jr.
Kellam, Frank Wallace, Jr.
Kenaston, Thomas Corwin, Jr.
Keogler, June Kane
Kern, Marion Louise
King, Betty Davis
King, Lucinda Margaret
Kinney, Donald Shupert
Kirk, Jane Seaver
Kirk, Robert Dixon, Jr.
Kirsh, Marvin
Kistler, David Reeves
Kistler, William Harvey, Jr.
Knaepen, Henry Joseph
Knotts, Benjamin Franklin, Jr.
Knotts, James Terrell
Korstian, Grace Catherine
Krout, William Alfred
Kyle, Harvey Lewis
Lane, Rembrandt P., Jr.
Latty, Eunice Beulah
Lawrence, Frances Elaine

Leake, Medford M.
Leitner, Paul Revere
Levy, Foster LeRoy
L.ewis, Doris Helen

Lewis, James Kelly
Lewis, Mary O'Rourke
Lindsay, Carl Howard
Lineberger, Henry Otis, Jr.
Lipscomb, Imogene Faye
Long, Cbarles A., Jr.
Long, Claude Homer
Love, Thomas Anderson
Lovejoy, Virginia
Lucas, Robert Theodore, Jr.
Ludwig, Charlotte Maxine
Lutz, Willian Austell
L.yle, Berton Edward

MacDonald, Weldon Blair
Mac Dowell, Anne Barksdale
Magaw, Malcolin
Maier, Wanda Katherine
Malkasian, Sally Frances
Mapp, Elizabeth James
Martin, William Grinalds, Jr.
Martinelli, William Joseph
Marvin, Corimne
Marx, Paul Henry
Massey, William Everard, Jr.
Matlock, Jack Faust, Jr.
Matlock. Rebecca Burrum
Matton, Lawrence Case, Jr.
Maxfield, Mary Ann
McAdams, John Livingston
McAllister, Douglas Howard
McColley, Charles Stanton
McCuiston, Erdmuth Dorothea
McCullen, Charles Donald
McDermott, Sara Carolyn
McElroy, Celia Anne
McFadden, Alexander Bratton
McGuire, Victor V., Jr.
McKinnon, Arnold Borden
McKittrick, Charles Everett, Jr.
McMasters, Lewis Lipton, Jr.
Meier, Charles Donald
Meloy, Patricia Anne
Meyer, Gerhard H.
Midgett, Peleg Dameron, III
Miller, Fred James
Miller, John Raymond
Miller, Robert Wesley
Miller, Ulrick Ray, Jr.
Mims, Virginia Greenlee
Mitchell, George Stanley, Jr.
Mitchell, Joann
Mitchell, Robert Kell
Mitchell, William Hoyle
Moeller, Robert Henry, Jr.
Montgomery, John Dougherty
Moore, Nelson R., Ir.
Moorhead, Samuel Roscoe, Jr.
Mosier, Edward Russell
Mouat, Mary Elizabeth
Murray, Jean Farley
Musser, Robert Leland
Myers, Marilyn
Myers, Martha Rose
Myers, William C.
Neal, Phil Hudson, Jr.
Neely Alice Randolph
Neumeister, Helen Louise
Newcomb, William Rodes
Newbouse, Wilfred John
Newman. Robert Loyd
Nichol, Robert Joseph
Ninos, George Stephen
Ortolf, Karl George
Orzech, Edward George
Osteen, Claudia Louise

Page, Talmadge Dawson
Parker, Eloise Hendricks
Parker, Susan Hoge
Parrish, Josepb Alfred Gorgas
Parry, John Fowler
Patterson, Sally Elizabeth
Patton, Frank Caldwell, Jr.
Peele, William Oscar, Jr
Perkinson, Carl Joseph
Peters, Dulcy Cynthia
Pickett, William Harry
Pierce, Walter Morgan, Jr.
Porter, Robert Alton
Poteat, Barbara White-Spunner
Povejsil, Alice Joan
Pratt, Mary Louise
Propst, Clyde Luther, Jr.
Propst, Frances Wilkinson
Purcell, Elizabeth A shton
Rainey, Merle Elizabeth
Rake, Barbara Ann
Ramalho, Doris Helen
Ramsey, Robert Wayne
Raney, Jean
Reece, Oscar E
Reed, Sara Evelyn
Rees, Fay
Reid, Ann Townsend
Reske, Virginia Claire
Revel, John Frederick
Reynolds, Mary Josephine
Rhine, Robert Eldon
Ricca, Samuel Joseph
Rice, Ernest Hillman, Jr.
Rice, Marianne Lindsay
Richardson, Ann Marie
Richnaan, Harold Morton
Rider, Robert Vernon, Jr.
Riordan, William Courtney
Roberts, Ray Crouse, Jr.
Robinson, Warren Holt
Rose, Charles Kenneth, III
Rosenman, Helen Maxine
Ross, Earl Jerome
Roush, Robert Ray
Rowe, Herbert Graham, III
Rowland, William Robert
Roy, Harold E.
Rudisill, Jennings Bryan, Jr.
Ruffner, Van Natta, Jr.
Russell, William Arthur
Russell, William Harry
Ryan, Mary Josephine
Sampley, Annelle
Sanders, Gertrude Nelson
Sanner, Avie May
Scarborough, David Knowles
Scbick, Philip Martin
Schoonmaker, Albert Stuart
Seaberg. Mary Elizabeth
Seeley, Naomi Ruth
Sharpe, Norman Thomas
Sharrett, Roger Carlton, Jr.
Shaudys, Vincent Kirkbride
Shaw, John Daniel, Jr:
Shelton, Thomas Austin
Shepherd, Douglas Nelson
Sherrill, John Lawrence
Shevick, Jerry Joseph, Jr.
Shipton, Lois Ann
Short, Emmett Fulton
Short, Raymond J., Jr.
Silver, Donald
Simpson, Norman Emmett
Sires, Leroy Alexander, Jr
Sisson, John Paddock
Slaughter, Madge Rayle
Small, Robert Roscoe
Smisson, Frances Nell

Sinith, Anna Lee
Smith, Betty Gene
Smith, Ethel Beverly
Smith, Franklin Calton, Ir.
Smith, Joseph Colbert, Jr.
Smith, Lee Amon
Smith. Lee Creecy
Smith. Melbourne LeRoy
Smith, Richard Stanley
Smith. Robert Eugene
Smith, Sherwood Draughon
Smith, William Burford
Smith, William Dudley
Smyre, Melford Alton
Snell. Shirley May
Sommer, Sylvia Anne
Southern, James Albert
Spach, Madison S.
Spearman, James Henry, Jr.
Spears, Sally McWhorter
Sprinkle, B. Franklin
Stallings. Tolbert Lacy, Jr.
Stanback, Fred Jennings, Jr.
Stark, Thomas Hall
Steel, John Schultz
Steele, James Gladstone
Steiner, Golde Joan
Stephanz, Paul William
Stewart, Catherine Grier
Stewart. Gertrude Theresa
Stewart, Mary Norton
Stewman, John Alexander, 111
Stipe. Robert Edwin
Stork, Carl Alexander
Stowers, S. Frank
Strauch. Charles Richard
Streicher, Marjorie Mary
Stvan, Edward B.
Suggs. Jane Estelle
Sutton, Anne Vaughan
Sutton, Loyd Erskine
Sutton, Quincy Jackson, J r.
Swann, Thomas Burnett
Swerlick, Rohert
Talbot. Mary Castleman
Tanaka, Shin
Taylor, Grace Elizaheth
Taylor, Nancie Jane
Taylor, William James
Tennent, Louise Cooper
Ternosky, Carl
Terry, Nyle Brug
Thomas, Pendleton Jones, Jr.
Thompson, Edwin Spencer
Thompson, Harold Britt
Thompson, James Edward
Timothy, John T.
Tingen, Clarence Aubrey

Traub, Henry Willis
Treleaven. Phillips Alhert
Tribble. W. Mack, Jr.
Tropman. John R.
Tucker, Polly Bradshaw
Tully, William Franklin
Turhidy, John Berry
Tutan. Charles B., J r.
Tuttle, Kathryn Mims
Tuttle, William Brock
Tyler, Marjorie Ann
Tyson, Joseph Blake
Urban, James Arthur
Van Houten, Barbara Jean
Verner, John Victor, Jr.
Vollmer, Donald Miller
Waggoner. Oren Thomas
Wagoner, George Richard
Walker, Paul Creasy, Jr.
Wallingford, Thomas Ralph
Ward, James William
Ward. William Robert. Jr.
Waston, Penn Thomas, Jr.
Watts, William Logan
Weiland. Mary Louise
Weith, Evelynn Frances
Welch, Frederick Parker
Welch, Gordon Kennedy
Westlin, William Frederick, Jr.
Wharton, Katherine Marian
White, Beaman Twitty
White, Emily Jennings
White, Robert Carlton
Whitmore, Mary Ellen
Wilkerson, Albert Ernest, J r.
Wilkin, Rohert Camphell
Wilks, Marilyn Louise
Williams, Anne St. Clair
Williams, Darrell Brown
Willians. Webster Douglas
Williamson. Clara Eugenia
Wilson, Margaret Blizard
Wilson, Plato S.
Wilson. Rohert Lincoln
Winn, Richard Morrow, Jr.
Wolf, Anna Hermine
Wolf, Charles Edward
Womack, William Graham
Womble, Barhara
Wood, Judith Ann
Woolard. Jordan Marion, 111
Wynn, Rohert Sawtelle, Jr.
Iates, James Jefferson
Young, Linville Franklin
Young, Loren Darlington
Yudell, Rohert Benjamin
Zahner, Jane Logan

Barnes, Robert L.
Borstell. Hans Joachim
Brown, Rollin Lomhard
Collins. Patricia Ann
DuBerger, Lorraine Avis
Foreman Edwin E.
Cilmer, William Dryden
Harrison, Elizaheth Kutz
Hiller, Karl H.
Hillsley, Margaret Trevenning
Johnson, Ragnar Edwin, Jr.
Kelley, Jean Elizaheth
Loftin, Horace G., Jr.
MacKenzie, Martha Harris
Markham, John Leslie
McGerity, Joseph Loehr
Morse, Carolyn Frances

Neely. Edward Rex, Jr.
Pfann. John Richard
Plaster, Henry Garnett
Polk, Ted Pritchard, Jr.
Poteet, Jamie
Rice, Milton B.
Rosenherg, Edward R.
Saunders, Jean Marilyn
Stewart, A. Theodore, Jr.
Sweeney, John Rodney
Tanc, Charles Beecher
VanZandt, Thomas Edward
Ware, James Gareth
Wastler. Thaddeus Allen, Ir.
Wilcox, Charles Hamilton
Zahner, Rohert, III

Eckert, Barbara Bastek
Goodrum, Margaret L.
Mathews, Joyce Covert

Anderson, Dean F. Calhoun, Dallas
Chesson, Eugene, Jr.
Clark, John Schaumann
Dwiggins, Gordon L.
Hazel, Robert Lee
Honeycutt, Lex E.
Kanipe, James Francis
Osborne, James Nelson

Adamson, Claude Max
Biggs, Joseph Lewis
Blakenship, John Swann, Jr.
Callahan, Charles Edward
Carroll, James William, Jr.
Chapman, Robert Willis
Connor, Robert Earl
Doherty, Andrew Joseph, Jr.
Elmore, Ethelbert P., J r.
Elrod, William Alexander
Foreman, James Monroe, Jr.
Gibbs, Clayton Leon
Gülüm, Fahir
Hall, Wayne Thomas
Harris, Jack Buren
Hayward, Walter W., Jr.
Hoellen, Earl Edwin
Jordan, Ernest Mansfield, Jr.
Kennerly, C. Michael
Ladshaw, Thomas Gordon
Loser, Theodore C., Jr.

Babykin, Anatole Gregory
Best, Richard Kenneth
Campbell, Donald Adams
Capwell, Donald Bruce
Chapman, Frank Abbott
Clark, Banks Worth
Cook, Roger G.
Day, Douglas Francis
Delionback, Leon Melvin
Dickerson, Claud M.
Dinkler, Leonard Ronald
Egan, James Donald
Fitch, James B., Jr.
Gibbs, William Bryan
Goldman, Jay
Hall, Frederick Lewis
Hamilton, James Love, Jr.
Hannon, Fred L.
Harris, Thomas Camden
Hooven, Wilbur Thomas, III
Hottenstine, Richard Daniel
Huffman, William Howard
Jenkins, John LeBon, Jr.
Lark, William F.

Andersoni, Carol Snow
Anderson, Mary E.
Arey, Margaret Bernardine
Baker, Betty Hinton
Beacham, Marian Beverly
Black, Alice Elizabeth
Bray, Dorothy Elizabeth
Burnham, Carol Jean
Chappell, Johanna Marie
Cornwell, Polly Mae
Croom, Bobbie Jane

In Nursing Education
Miller, Margaret Emma
Reid, Joan M.
Zarnick, Florence Anne
In Civil Engineering
Palmer, Cecil Albert
Parnell, James T.
Pickett, Hubert W., Jr.
Sorrell, Quinton Lee, Jr.
Stewart, Harvey Hester, Jr.
Tager, Milton Lee
Williamson, Cecil Floyd
Williamson, Max L.
Wood, Thomas Edward
In Electrical Engineering
Major, Howard LeRoy
Meekins, James C.
Mincey, James Haywood
Mingus, Henry Sigmon
Parker, James Bruce
Pogany, Ernest J.
Rhea, William Paul
Rose, Elwood H.
Rudisill, John Arvle, Jr.
Smith, Edwin James
Stone, Albert Leppo
Strandberg, Charles F.
Taylor, Joseph Wilson
Trusk, George
Tubbs, David Llewellyn
Waltman, Ray Hugh
Warnick, Edward Eugene
Williams, Bill Rowney
Wilson, Hubert Leroy, Jr.
Wuchte, John I.
In Mechanical Engineering
Lillie, George Albert
Lucas, Swain Seaton
McCracken, Harold Conrad
McLean, Howard Jones
Mullin, James Louis
Persechino, Mario Anthony
Person, James Ellis
Pierce, Francine Gwynne
Pitt, John Anderson
Roberts, William Richard
Scott, William Edward
Sibley, Donald Malcolm
Siler, Frank Gilmer
Starks, Garvin T.
Steiner, Kenneth James
Stockslager, Arthur James
Stone, George Rollins
Suggs, Jacob L.
Sutphin, Arthur Thomas
Trippel, Gerald Edward
Underwood, John Thomas, Jr.
Wall, Richard David
Wilson, Walter Grier

DIPLOMA IN NURSING
Farrar, Catherine Lee
Gatewood, Frances Willard
Gatlin, Jean Miller
Hamlen, Nancy Ann
Hickman, Alice Newton
Howard, Marolyn
Johnson, Mary Ann
Lee, Ethel Lee Romines
Lewis, Mary Jane
Lowder, Hilda Gaye
Mason, Mary Jane

Murray, Margaret B.
Perkins, Mary Faye
Perkins, Nell Rose
Powell, Roberta Ann
Prairie, Patricka Van Cleve
Purkali, Maude Ella
Rainey, Virginia Doris
Ruffin, Jean Roller
Rutherford, Ann Martin

Beacham, Marian B.
Black, Alice Elizabeth
Bray, Dorothy Elizabeth
Burnham, Carol Jean
Carson, Lenna Ilene
Cornwell, Polly Mae
Farrar, Catherine Lee
Gatewood, Frances Willard
Gatlin, Jean Miller
Johnson, Mary Ann
Lee, Ethel Lee Romines
Mason, Mary Jane

Sears, Laura Alice
Smith, Gloria Chaney
Thomas, Corinna
Thompson, Winifred
Thornton, Mary Ruth
Tillman, Polly Chandler
Winslow, Esther Elizabeth
Wylie, Phyllis M.
B.S. DEGREE IN NURSING

McCartney, Lois Josephine
Murray, Margaret B.
Perkins, Nell Rose
Prairie, Patricka Van Cleve
Purkall, Maude Ea
Rainey, Virginia Doris
Thomas, Corinna
Thornton, Mary Ruth
Thorpe, Annie Louise
Tillman, Polly Chandler
Willard, Ruth Boaz
Wylie, Phyllis M.
B.S. DEGREE IN MEDICINE

Patrick, Simmons Isler
Wolf, Rohert Lawrence
M.R.E. DEGREE

Liggett, Hollis Samuel
Swofford, Betty Hazel
Wang, Yao Ying
M.ED. DEGREE

Irwin, Harry Penrose, Jr.
Power, Walter Dean, Jr.
Thrift, Susie Webb
Warren, Eva Woosley
M.F. DEGREE

Knudsen, Lyle L.
Lowery, David Perry
Marlow, Ernest Grant
Newman, Walker Preston
Pfeiffer, Jack Russell
Porter, John Allamong
Powers, Harry Robert, Jr.
Smith, Bernard Fletcher
Smith, David V.
Smithey, John Willie
Sprague, Edward Dubois
Thomasson, Gerald Ste. Gemme
Thompson, Lawrence Nathaniel, Jr.
Thorne, Harry Wallace
Turpin, David Howard
Wright, Kenneth Harold
Wyckoff, Peter Judson
Zirkle, John Jacob, Jr.

## A. M. DEGREE

Chait, Donald Carl
Clavering, Rose
Elliott, Don Ringgold
Georgiade, Ruth Sauer
Hollyday, Frederic B. M.
Huckabee, Elizabeth Rezner
Hughes, Margaret Elizabeth
Hunter, Sylvia Fishman
Kenion, Alonzo Williams
Krummel, Mary Eleanor
Magner, Bertha Ardys
Oliver, George Brown
Parker, William Alonzo
Peters, Frank Anthony
Prichard, Howard Oscar

Robertson, Patricia Rutl
Rogers, Rembert A., Jr.
Rosenthal, Louis
Ruffin, Albert L., Jr.
Schramm, Robert J., Jr.
Sharp, Henry, Jr.
Spearman, Eloise
Spencer, William
Spring, Marion Kathryn Stroud, Lowell
Sulzer, Richard Lee Waller, William W., Jr. Warlick, George Clifton, Jr. Whitehead, Mary Elizabeth

## B.D. DEGREE*

Langrall, Edwin Hilmore
Mallary, Martha Bayne
Mays, Harry Roy
McCartt, James Spurgeon
McGlamery, Neal Vannoy
Merriman, William Richard
Miller, James Herbert, Jr.
Miller, Ralph
Mote, John Anson
Pearce, Arthur Bascom, Jr.
Register, Fred Page
Reid, Dermont James
Schrader, Albert John
Siple, Clair Dwight
Snyder, Walstein Welch
Van Hoy, William Ford, Jr.
Walton, Charles Harmon
Warren, Clarence Lee
Withrow, Carlos Quentin

LL.B. DEGREE
Lim, Kwan Hi
Lloyd, Robert Blackwell, Jr.
Max, Henry Leo
Marks, Edwin Robert
McClain, Oren Walsh
McCown, Annie Sue Vick
Mervine, W. David
Osborne, Wallace Sherrill
Pace, Fred C.
Pagani, Louis Paul
Patterson, William Robert
Philipp, Albert Ernest, Jr.
Pingree, Hedley Gordon
Pino, Daniel Richard
Poteat, Thomas Lawton
Potter, Robert D.
Reams, Hugh Etherton
Routh, John Webb
Shannon, Charles Melvin, Jr.
Shields, Luther Perry
St. Clair, Clifford Meade
Stokes, Robert Fraser, Jr.
Stormes, Ben F.
Suddard, Oliver V.
Vannoy, Wade Eugene, Jr.
Wachenfeld, William Thomas
Wagner, Franklin Porter
Walker, Harry Clayton
Watson, William Wood
Wellman, John Wilson
West, James Arthur, Jr.
Whitehead, Robert Clifton, Jr.
Williams, Daniel McGregor, Jr.
Wilson, Nathan Hughs
Winders, William Rudolph
Wolfe, James Boyd, Jr.

## LL. M. DEGREE

Griffith, Brantley B.
Helterline, Russell M.
Speth, Charles Theodore
Tenhet, Joseph Nesbitt, Jr.
Touby, Richard
Weeks, Arthur Andrew

Anderson, Kitridge
Barnes, Henry Franklin
Bennett, Reginald Victor, Jr.
Berry, James Burke, Jr.
Black-Schaffer, Alice Eugenia
Blake, John Ronald, Jr.
Blatman, Saul
Bonnet, Joseph Lambert
Bosman, Robert Isaac
Boucher, William Lee
Brawner, Hugh Page, Jr.
Bridgers, John David
Bruce, James Frederick
Campbell, Lachlan Leigh
Canada, Wilma Jeanne
Conroy, Joseph Alphonse, Jr.
Cook, John Samuel, Jr.
Cooper, Gerald Rice
Covington, Alpheus McCullen
Dick, Frederick William
DuBose, Howard McRoy
Fitz, Thomas Edmunds
Fraysse, Louis Augustus, III
Garrett, Norman Hessen, Jr.
Georgiade, Nicholas George
Greene, John Patterson
Hambright, Rufus Roberts
Hamilton, Edward Lee
Hamlin, Mervyn Ray
Harris, James Allen
Harris, Tyndall Peacock
Huff, Albert Burney
Hunter, Murray B.
Jennings, Monroe Ruework
Johnson, Reginald Hall, Jr.
Joy, Vincent Anthony
M.D DEGREE

Kerns, Thomas Cleveland, Jr.
Keye, John Dudley, Jr.
Kier, John Hoskins
Kornegay, Grey Bryan
leone, Nicholas Charles
Lesesne, John Mitchell
Levinthal, Atala Jane Scudder Davison
1.ewis, Charles Pell, Jr.

1,ewis, Leonard Abram
Magee, William Edwin
Mairs, Daniel Atlee
$\dagger$ Mathisen, Glenu Estes
McCandless, Dean
McKay, Buchanan McMaster
Messer, Henry Davis
Miller, David Critcherson
Murdaugh, Herschel Victor, Jr.
Newell, Ernest Tittle
Osterhout, Suydam
Overman, John Reagan
Patrick, Simmons Isler
Richardson, William Lawson
Rippy, William Dennis
Rucker, Douglas Pendleton
Russell, Philip Everett
Schuyler, Leonard Herbert
Sellers, Thomas Duncan
Seymour, Charles Floyd
Shingleton, Gerald Coburn
Smeltzer, Dave Harvey
Stewart, Robert Maxwell
Sullivan, Margaret Patricia
Sylvester, Joseph George
Vogel, John Leslie
Williams, Charles David, Jr.
Youngs, Harry Hill, Jr.
D.F. DEGREE

Smith, Richard Chandler
Wu, Chung-lwen

PH.D. DEGREE
Agourides, Savas Chrestos, Diploma, University of Athens. Dissertation: A Study in the Origins of Christianity.
Braverman, Elizabeth Parks, A.B., Grinnell College. Dissertation: Aspects of Imagery in the Poetry of Herbert, Vaughan, and Traherne: A Critique of Certain Definitions of "Metaphysical."
Burkhalter, James Herbert, A.B., Emory University; M.S., Georgia School of Technology. Dissertation: The Microwave Spectrum of Orygen.
Burtt, Everett Johnson, Jr., A.B., Berea College; A.M., Duke University. Dissertation: An Economic Appraisal of the New England Fishing Industry.
Bussell, Wilsie Florence, A.B., A.M., Duke University. Dissertation: The Parallel Themes of Pacifism and Revolution in the Works of Romain Rolland 1914-1944.
Dillingham, William Pyrle, B.A.E., University of Florida; M.S., University of Tennessee. Dissertation: Federal Aid to Veterans 1917 to 1941.
Edwards, Howard Dawson, B.S., University of Georgia. Dissertation: Microwave Spectra and Molecular Constants of Methyl Alcohol and Methyl Amine.
Ferrell, Doctor Thomas, Jr., B.S., Eastern Kentucky State Teachers College; A.M., Duke University.
Dissertation: The Mechanism of the Discharge of the Electrolytic Manganese Dioxide Electrode.
Fulton, Lewis McLeod, Jr., B.A., Mt. Allison University; A.M., Duke University. Dissertation: Decompositions Induced Under Finite-to-One Closed Mappings.
Garrett, James Richard, B.S., Lenoir-Rhyne College; B.S. in Meteorology, California Institute of Technology; A.M., Duke University. Dissertation: Normal Equations and Resolvents in Fields of Characteristic p.
Gilliam, Otis Randolph, B.S., Randolph-Macon College.
Dissertation: Microwave Investigations of Methyl Fluoride, Fluoroform, and Phosphorus Triffuoride.
$\dagger$ Awarded posthumously.

Hathorn, Guy Bramlett, B.A., M.A., University of Mississippi. Dissertation: The Political Career of C. Bascom Slemp.
Hauptschein, Murray, B.S., College of the City of New York.
Dissertation: The Action of Fluorine and C̣hlorine on Deactivated Alkenes and Alkanes.
Helm, Robert Meredith, Jr., A.B., Wake Forest College; A.M., Duke University. Dissertation: A Critique of the Ethics of Philosophical Idealism.
Hertz, Hilda, A.B.. Skidmore College; A.M., Duke University. Dissertation: Language and the Social Situation: A Study in Race Relations.
Horn, Herman L., A.B., Bridgewater College.
Dissertation: The Growth and Development of the Democratic Party in Virginia since 1890.

Howard, Raydeen Roland, B.S., University of Georgia; A.M., Duke University. Dissertation: Pressure Broadening of Ammonia Lines by Polar and Non-Polar Foreign Gases.
Hull, Wayland E., A.B., Milton College. Dissertation: A Study of Certain Factors Which Influence the Pattern of Breathing in the Anesthetized Dog.
Humphlett, Wilbert Jeptha, A.B., A.M., Clark University. Dissertation: Reactions of Nitriles with Grignard and Other Basic Reagents and of Active Methyl Pyridyl Compounds with Ethyl Oxalate.
Kent, John Franklin, B.A., College of the Holy Cross; A.M., Columbia University. Dissertation: The Application of Quantitative Methods in Studies of the AntrgenAntibody Reactions.
Knight, Walter David, Jr., A.B., Middlebury College; A.M., Duke University. Dissertation: The Effect if Electronic Paramagnetism on Nuclear Magnetic Resonance Frequencies in Metals.
Knudsen, Lyle Leonard, B.S., Morningside College. Dissertation: The Relation Between Soil Properties and Growth of Slash Pine in the Coastal Plain Region of Southeastern United States.
Lewis, Harold Walter, B.S., Middlebury College; M.A., University of Buffalo. Dissertation: Cosmic-Ray "Bursts" in Ionization Chambers of Different Materials.
Metz, Louis John, B.S., Michigan State College; M.F., Duke University. Dissertation: Relation Betzeen Soil Properties and the Growth of Loblolly Pine in the Southeastern Coastal Plain.
Miller, William Long, B.B.A., University of Chattanooga; A.M., Duke University. Dissertation: Some Aspects of the Income Velocity of Money.
Moffett, Robert Preyer, B.S., A.M., Duke University. Dissertation: A Study of the Kinetics of Some Aromatic Cyclodehydration Reactions.
Montgomery, John F., A.B., Hampden-Sydney College; A.M., University of Southern California. Dissertation: An Investigation of the "Case II" Relationship in Arithmetic.
Montgomery, Theron Earle, Jr., A.B., Wofford College; A.M., Duke University. Dissertation: The Social Implications of the Personnel Policies of the Southern Cotton Textile Industry.
Newberry, Gene Wilson, A.B., Denison University. Dissertation: A Critical Study of the Philosophy of Samuel Taylor Coleridge, with Particular Reference to His Epistemology.
Oglesby, Roscoe Ralph, A.B., Georgetown College; A.M., University of Virginia. Dissertation: Applications of International Law Under Conditions of Civil Strife.
Pafford, Ward, A.B., A.M., Emory University. Dissertation: English Bards, and Scotch Reviewers: A Study of Byron's Development as a Satirist.
Pierson, Dolores Lehmann, A.B., Brooklyn College; A.M., Columbia University. Dissertation: Heterochromatin in the spermatogenesis of popilius disjunctus Illiger.
Potter, John Clarkson, B.S., University of Washington. Dissertation: The Solibilities in Water and the Vapor Pressures of Some Organic Fluoride Compounds.
Purcell, James S., Jr., A.B., John B. Stetson University; A.M., Duke University. Dissertation: Literary Culture in North Carolina Before 1820.
Rush, Joseph Harold, B.A., M.A., University of Texas. Dissertation: Absorption Studies of the Vapors of the Isomeric Picolines in the Near Ultraviolet.
Smart, Hugh Robert George, A.B., McGill University. Dissertation: The Theories of Space and Time Found in Hume's Writings.
Snoke, John B., B.S., University of Illinois.
Dissertation: The Relation of Chemical Structure of Substrates to their Hydrolysis by Proteolytic Enzymes.
Stone, Edward, B.A., M.A., University of Texas. Dissertation: Henry James and His Sense of the Past.

Sutcliffe, William Humphrey, Jr., A.B., Emory University; A.M., Duke University. Dissertation: A Qualitative and Quantitative Study of the Surface Zooplankton at Beaufort, North Carolina.
Swerlick, Isadore, A.B., Temple University. Dissertation: The Synthesis of Some Aromatic Ketones.
Todd, Richard Cecil, B.S.C. in Educ., Millersville State College; M.Ed., Pennsylvania State College. Dissertation: A History of Confederate Finance.
Unterberger, Betty Miller, A.B., Syracuse University; M.A., Radcliffe College. Dissertation: America's Siberian Expedition 1918-1920: A Study of National Policy.
Unterberger, Robert, B.S., Syracuse University. Dissertation: A Stark-Effect Microwave Spectrograph and Microwave Frequency Standard; Their Application to the Investigation of Chloroform.
Vinson, John Chalmers, A.B., Davidson College; A.M., M.F.A.. University of Georgia. Dissertation: The Senate and the Washington Conference, 1921-1922.
Wesson, William Hinton, Jr., B.S., North Carolina State College. Dissertation: Salaries and Wages in State Government Employment.
Woodress, James Leslie, Jr., A.B., Amherst College; A.M., New York University. Dissertation: The Italian Phase of William Dean Howells.
Honorary degrees
Doctor of Laws
Draper, William Henry $\quad$ Fulbright, James William
Doctor of Sciences

Magnuson, Paul Budd

> Doctor of Letters

Stephenson, Wendell H.
Candidates for commissions in united states navy and united states marine corps
Ensign, United States Navy: Second Lieutenant, United States Marine
Chapman, Robert Willis
Corps:
Chesson, Eugene, Jr.
Burns, Franklin Kent
McMasters, Lewis Lipton, Jr.
Campbell, Donald Adams
Neely, Edward Rex, Jr.
Clardy, Will Jouette, Jr.
Plaster, Henry Garnett
Roberts, Ray Crouse, Jr.
Smith, Melbourne LeRoy
Steel, John Schultz
Stewman, John Alexander, III
Wilson, Walter Grier
Stockslager, Arthur James
Ensign, United States Naval Reserve:
Knotts, Benjamin Franklin, Jr.
CANDIDATES FOR COMMISSION OF FIRST LIEUTENANT, MEDICAL CORPS, ARMY OF THE UNITED STATES
Bennett, Reginald Victor, Jr.
Bosman, Robert Isaac
Fraysse, Louis Augustus, III
Greene, John Patterson
Hambright, Rufus Roberts
Hamilton, Edward Lee
Lewis, Charles Pell, Jr.

McCandless, Dean
Richardson, William Lawson
Rippy, William Dennis
Sellers, Thomas Duncan
Stewart, Robert Maxwell
Youngs, Harry Hill, Jr.

The following earned degrees since Commencement in June, 1949
Degrees Awarded September 1, 1949
A.b. DEGREE

| Ausbon, Douglas Hix | DuPlessis, Loraine Joan |
| :--- | :--- |
| Baker, William Henry | Edwards, William Harrison |
| Bauer, Eugene Joseph | Elliott, Floyd Avery |
| Bauhman, Charles Ben, Jr. | Foard, Milton Cowan |
| Bell, Patricia Nan | Forbes, Donald Bramer |
| Biggers, William Joseph | Foreman, James Graham |
| Bitker, Alexander | Freeman, William Townsend |
| Bortner, John Gerberick | Gardinier, Richard John |
| Bo, Klay K. K. | Gerstein, Joe W. |
| Cammack, Lois | Gimler, John Robert |
| Clayton, Robert Lawrence, Jr. | Glover, Edward James, Jr. |
| Clendnein, William Forrest | Goeke, William Henry |
| Coffee, James M. | Hall, James Thomas |
| Collins, William Cornelius | Hardy, Ella Carrington |
| Cook, Clark Curtis | Harris, Lena Jane |
| Creesy, William M. | Hayes, Leonidas Braxton, Jr. |
| Daniel, McRobert Taylor | Hester, Bernard Crayton |
| Drew, Mitchell Nebraska |  |

Hopkins, James Ira
Jackson, Ervin, Jr.
Jacokes, Paul Webb
James, Kenneth Clayton
Johnson, Edwin Gustave
Jones, Carl L., Jr.
Jordan, Mary Katheryne
Kanoy, Robert Carson, Jr.
Kaufman, Grace Elizabeth
Knott, Gerald Wesley
Lacey, James Robert
Larabee, Leo Benjamin
Lonergan, Robert Colnon, Jr.
Lunsford, Thomas V.
Lyon, Arthur Sherrill
Mangum, Lawrence Durell
Mays, Alexander A.
McGehee, Clifford Graham, Jr.
McLean, Earl Daniel, Jr.
Mendenhall, John Henry
Morris, Howard Franklin
Mousmoules, Estelle
Nelson, Donald Palmer
Nesbitt, Helen Roe
Newman, Nathaniel Saunders
Null, Richard Bower
Nygaard, Elizabeth Ann Bledsoe
O'Brien, Donald Quinby
Pierce, Henry Jones
Evans, Gerald W.
Evans, Thomas Earl
Feemster, Roioli Viloyo

## Byers, Edith Evangeline

Fogleman, Lindsay Luther
Dannals, Georgc Clark, Jr. Duncan, Joseph Capers

Edgar, John Roland
Hann, William G.
Speas, Irvin Gorrell
Burroughs. Harriett Novita
Hubbard, Phyllis
Burroughs Harriett Novita

Bagley, Clara Belle
Boggs, Doyle Willard
Craig, Mirian
Gustafson, Oscar Thaddeus
Hammack, Benjamin Paul
Handley, Ruth Margaret
1.yne, Nancy Moncure

Martin, Montine
Nispel, Benjamin S.
Parham, Maston Samuel
Butcher, Mary Bright
Cunningham, Noble E., J r.
Donnan, Sara Kathryn
Emerson, Everett Harvey
Emerson, Katherine Terrell
Gantt, B. T., Jr.
Gelbach, George Knode
Hardin, Hilliard Frances
Helfers, Melvin C.
Hoge, Phyllis
Hoover, Edna May
Jones, Óra Melinda

Duke University
Polinger, David Harris
Prentiss, James Hendry, III
Privette, Herbert Gregg
Proctor, Thomas Lee
Ptaschinski, George Howard
Raebeck, Charles A.
Reese, John Edward
Ridenhour, Robert Lee
Robin, Clayton, Jr.
Rogers, Ralph Peele, Jr.
Rosemond, Robert Malone
Rute, Charles Robert
Sanders, John William, III
Segall, Shirley Elizabeth
Senter, Guy W.
Sessoms, Carlie B.
Settle, Edward Alfred
Stemple, Peggy G.
Strider, Robert Lee
Sugarman, Alan Cecil
Sugg, Robert Whittington
Thompson, Joseph Walter
Tooker, John Taylor
Trenkmann, Edward, Jr.
Tyson, Edwin L.
Van Camp, George David
Waugh, John Blair
Williams, Katherine Bixler
B.S. DEGREE

Pandolfo, Patrick A.
Thiel, Goodrich August
Webb, Edwin Hull
In Nursing Edueation
Slaybaugh, Wanda Alice
In Civil Engincering

## In Electrieal Engineering

Lyon, George Wood
Minton, Richard Raymond
In Meehanical Engineering
Tomlinson, Russell Crawford
Watts, John Simmerman, Jr.
diploma in nursing
Redmond, Lula Dorothy Moshoure.
b.S. IN NURSING

Stephenson, Nancy Lee
M.ED. DEGREE

Pitzer, Gladys E.
Rosinski, Sophie Annc
Scherer, Betty Roszhart
Scott, Sammy Alan
Somers, Graham Watson
Spencer, Alyce Oates
Stealey, Helen Louise
Tate, Margaret Clementine
Walton, Wesley Wills
A. M. DEGREE

Kern, Mary Katharine
Lewis, Jo Carolyn
Musgrove, Janice Alicia
Parks, Helen Louise
Pegram, Howard McIever
Perkins, Betty Sue
Powell, Lillie Mae
Robinson, Margaret Eula
Scott, Frank Alexander
Smith, Lawrence Joseph
Spencer, Ralph Edwin

# Degrees Awarded August 27, 1949 

ll.b. DEGree

Cobb, Nelson J.
Holt, Duncan Waldo, Jr. Hutchins, Lawrence Edgar

Lee, Hugh Alfred
Page, John Thomas, Jr.

Summa Cum Laude
September 1, 1949

Segall, Shirley Elizabeth

Brandt, Leroy Milton
Lane, Reinbrandt Peele, Jr. Brown, Rollin Lombard

June 5, 1950
Matlock, Jack Faust
Friend, Barbara Maynard

Magna Cum Laude
September 1, 1949
Waugh, John Blair
June 5, 1950
Brown, Clarence Fleetwood
Meier, Charles Donald
Fisher, William David
Irvin, Glenn Fosdick
Driver, Tom Faw
Swann, Thomas Burnett, Jr.
Dundas, Elgiva Ruth
Smyre, Melford Alton
Tribble, Willie Mack, Jr.
Honors in Departments and Schools SCHOOL OF LAW
Order of the Coif
Patterson, William Robert
Whitehead, Robert Clifton, Jr.
Graduated "With Distinction"
Hadlow, Earl Bryce
Patterson, William Robert
Whitehead, Robert Clifton, Jr.
Willis Smith Prize-Hadlow, Earl Bryce
School of Medicine-Election to Alpha Omega Alpha, Honorary Medical Fraternity

Canada, Wilma Jeanne
Miller, David Critcherson
Conroy, Joseph Alphonse, Jr.
Osterhout, Suydam
Harris, James Allen
Sullivan, Margaret Patricia
Garrett, Norman Hessen, Jr.

Bridgers, John David
Dick, Frederick William
Fraysse, Louis Augustus, III
Kornegay, Grey Bryan
Cook, John Samuel, Jr.
Patrick, Simmons Isler
Hunter, Murray B.

Students listed according to averages

Abbott, George Richard
Germino, Dante Lee
Brooks, Frederick Phillips, Jr.
Chapman, William Ennis, III
Erwin, Albert Rich, Jr.
Appel, Robert Jerome
Metropol, Harry Jack
Clark, Henry B.
Spivey, Bobby Atwood
Sanders, Tom Griffin
Evans, Phillip William
Ritch, James E., Jr.
Foster, Richard Sparre

Noel, William Lee
Rusinow, Dennison Ivan
Howard, J. Woodford
Bannister, Thomas Turpin
Dannenberg, Richard Bruce
Hail, Joe James, Jr.
Hardin, Paul, III
Haft, Richard Jay
Renuart, Adheman William

Roth, Arnold I.
Simmons, Bowen Eugene
Morgan, Thomas Erward, Jr.
Baldwin, William Lee
Binda, George Edward
Withers, W. Kenney
Otis, George Leslie, Jr.
Powers, Noyes T.
Stringer, Arthur John, Jr.
Noell, Algernon Stanford, Jr.
Bowers, Gilmore

Freshman Honors
Fisher, Robert Warren
Pavlicek, Philip Charles
Mann, Milton Bernard
Hassler, William L.
Turner, John Calhoun
Montgomery, Douglas Gale
Carter, John'H.
Winter, Thomas W.
Dean, William H.
Mylrea, Bruce William
Walker, Clarence Wesley
Vance, Thomas Doyle

Sophomore Honors
Cooper, Thomas Walker
Merwarth, Charles Richard
Garlington, James Conway
Pearson, Alden B., Jr.
Price, Robert M., Jr.
Haskins, John William
Hilton, James Lee
Hwang, Chester Fay
Wiita, Robert Matthew
Junior Honors
Hodgson, Richard Holmes
Isley, Hugh G.
Wanzer, Sidney Hovey
Rose, Carl P.
Young, Robert Everett
Woodfield, Roland L.
Ingham, Olin H .
Fulweiler, Robert Edward
Boshinski, Edwin Ernest
Shapiro, Herbert Sanford
the woman's college, 1949-1950

Dawson, Mary Howland
Lake, Eleanor Betty
Gunderson, Ann Kathryn
Hurst, Nancy May
Markee, Shirley June
Harter, Barbara Alice
Levenson, Bernice

Price, Ann Ximina
West, Emily
Fairley, Nancy Elizabeth
Ervin, Margaret Leslie
Oliver, Joan Howard
Colledge, Lois June

Quillian, Harriet Sandeford
Murdoch, Evelyn Janet
Prosser, Sally Madeline
Branch, Mary Alice
Coggin, Sarah Jane
Camm, Gertrude Elizabeth
Whittle, Mary Eliza
Fritz, Martha Ann
Bailey, Mary Catherine

## Freshman Honors

Young, Bettie Anne
Gatsch, Marie
Kale, Sarah Dean
Waterfield, Frances McGill
Woolery, Martha Belle
Zanner, Genevieve Ellen
Sophomore Honors
Bixby, Mary Lousie
Pepper, Patricia
Goode, Jane Ann
McClure, Marie Price
Purviance, Patricia Corrine

## Junior Honors

Hooks, Mary Milbuın
Strickland, Elizabeth Wells
Hanser, Jana Lucille
Martin, Norma Louise
Green, Barbara Louise
Gosnell, Carolyn Forte
Morse, Carolyn Beeson
Lindsey, Love Loureen
Palmer, Ainslie Louise

## ROLL OF STUDENTS

## TRINITY COLLEGE

## Freshman Class

| Abbott, George Richard | Lewisburg, W. Va. |
| :---: | :---: |
| Abernathy, John Keats | Durham, N. C. |
| Accardo, Philip Joseph | Torrington, Conn. |
| Ackiss, Lee Ernest | Orindo, Calif. |
| Adams, Dan Gilbert | Waycross, Ga. |
| Adams, Walter Isaac | Lake Worth, Fla, |
| Adams, Walter Leslie | Middletown, N. Y. |
| Agronis, Gilbert Andrew | Bridgeport, Conn. |
| Alderman, Joseph William | Wooster, Ohio |
| Alexander, Frank Hugh | Charlotte, N. C. |
| Alexander, Lester Fisher, Jr. | New Orleans, La. |
| Allegood, Josepheus Jordon | Greenville, N. C. |
| Allison, Harry Richard, Jr. | Asheville, N. C. |
| Allison, Ronald Eugene | Shaker Heights, Ohio |
| Ammerman, Raymond P., Jr. | Lakeland, Fla. |
| Anderson, Harry W., Jr. | Houston, Texas |
| Anderson, Joe Keller | Alexander City, Ala. |
| Anderson, John B. | Cleveland, Ohio |
| Anderson, William Heartly | Grosse Pointe, Mich. |
| Appel, Robert Jerome | Brooklyn, N. Y. |
| Archambault, Paul Joseph | Baltimore, Md. |
| Armstrong, Carl Stover | Vanderpool, Va. |
| Armstrong, James Calvin | Parkersburg, W. Va. |
| Aronberg, Harold | Ashland, Ky. |
| Ashe, James E., Jr. | Asheville, N. C. |
| Atkins, James Harrison | Gastonia, N. C. |
| Atkinson, James Carroll | Thomasville, Ga . |
| Austin, Edward Rigler | Charlotte, N. C. |
| Baker, Charles Ernest | Evanston, Ill. |
| Baldwin, Bruce | Largo, Fla. |
| Barden, Lawrence Edgerton | Boone, N. C. |
| Barmack, Gerald J. | Riverdale, N. Y. |
| Barnes, Charles Haynes | Louisville, Ky. |
| Barnes, John Hyce, III | Lumberton, N. C. |
| Bartholomew, Bradley White | Charlotte, N. C. |
| Bass, Robert Homer | Danville, Va. |
| Bauman, Lawrence A. | Lookout Mountain, Tenn. |
| Bauman, Saul Richard | Memphis, Tenn. |
| Baur, Raymond Hartman, Jr. | Miami, Fla. |
| Baylin, Jack Lee | Baltimore, Md. |
| Beard, Cameron Randolph | Essex Falls, N. J. |
| Beauchef, William Del Pozo | Plainfield, N. J. |
| Bedell, Richard F. | Scarsdale, N. Y. |
| Bell, George Copeland | Raleigh, N. C. |
| Benda, George Michael | Arlington, Mass. |
| Bennett, Guy Hibert, Jr. | Durham, N. C. |
| Benson, Bruce Welsh | Dayton, Ohio |
| Berger, Charles Eaton | Naugatuck, Conn. |
| Berger, Robert Benjamin | Coalgood, Ky. |
| Bernard, Harold | Bridgeport, Conn. |
| Berney, Norman Adam | New York, N. Y. |
| Bernstein, Eugene M. | Baltimore, Md. |
| Bickerton, William Rankin | Kenmore, N. Y. |
| Biggs, Fred C. | Durham, N. C. |
| Bintliff, Richard Alton | Houston, Texas |
| Bishop, Ted H. | Princeton, W. Va. |
| Bishop, William Warren | Durham, N. C. |
| Bixby, Richard Glenn Blanck, Charles Kenneth | Detroit, Mich. |
| Blanck, Charles Kenneth | Rockford, Ill. |
| Bland, Billy Ray | Durham, N. C. |
| Bledsoe, James Wallace | Winter Park, Fla. |
| Blizard, John W. F., Jr. | Jenkintown, Pa . |
| Bogart, William Harry | Elmira, N. Y. |
| Bonin, Carl | Englewood, N. J. |
| Borchard, Robert Maurice Bornheim, Ralph | Rochester, N. Y. |
| Bouilliant-Linet, Francis J. | Garches, France |
| Bouldin, Gene Korner | High Point, N. C. |
| Bourne, John Philip | Charleston, W, Va. |
| Bourne, Philip Barry | Lakewood, N. Y. |

Bowles, Lawrence Thompson
Boyd, Melvin Thomas
Bradley, Ralph Edward
Braswell, Daniel L.
Brooks, Frederick Phillips
Brooks, Len Howard
Broom, Phillip Ward
Brown, Bruce MacDonald
Brown, Charles Galbraith
Brown, H. P.
Brown, Lawton Cater
Brtan, Vladimir
Bryan, Roland Henry
Buckley, Thomas Templeton
Bundschu, William Blanton
Burgess, Ben E.
Burgess, James Harry
Burrell, Robert G.
Buschman, Theodore William, Jr.
Bush, Bobby Wesley
Bynum, Frank Bundy, Jr.
Cain, Silas Winfield
Calaway, Elbert Ray
Cannon, Stanley Joel
Carey, John Jesse
Carnahan. John Anderson
Carson, David Gardner
Carter, John H.
Carver, George Wilson
Carver, John Raymond
Cashion, John Thomas, Jr.
Castor, Donald Franklin
Cates, Billy Reeves
Cates, Gene H.
Cates, James Wilson
Cates, Jerry H.
Caudill, Howard Davis
Caudle, Lloyd Cameron
Chamberlain, W. James
Chapman, William Ennis, III
Chappell, James Dodson, Jr.
Cheney, Paul Northcott
Cheng, Han Chong
Christy, Robert Harold
Clark, C. Fred, Jr.
Clark, George James
Clark, Henry B., II
Clarke, David Frederick
Clatterbuck, Ronald Drewry
Claxton, Richard Allen
Clemson, Buckey
Clifton, Theodore E., Jr.
Climenson, William Douglas
Clower, John R., Jr.
Cole. Thomas Thadeus
Coleman, Robert Albert
Collins, Williant Van
Conner, Lyle B.
Conti, Angelo Louis
Cooke, Maxwell Elwood
Cooper, Gary D.
Cooper, Jack R.
Coppala, George Harrill
Copes, George Steve
Crady, George Abraham
Craig, John Brad
Crawford, Tommy York
Crotts, Hal Austin
Crowther, Frank Harrison
Croxton, Hugh Bertram, Jr.
Cummings, Alton Tunnell
Curley, John Edward
Currin, Beverley Madison
Dahlstrom, Bertil Philip
Darkis, Thomas Morris
Darling, Glenn Alan
Darling, Lee Winfield
Davidson, John B.
Day, Jerry Donald

Garden City, N. Y.
Henderson, N. C.
Clifton Forge, Va.
Oxford, N. C.
Greenville, N. C.
Wilson, N. C.
Monroe, N. C.
Wynnewood, Pa.
Warren, Pa.
Great Falls, Mont.
West Palm Beach, Fla.
Bratislava, Czechoslovakia
Bayonne, N. J.
Washington, D. C.
Independence, Mo.
Newton, N. C.
Newton, N. C.
Wyoming, Ohio
Alexandria, Va.
Lenoir, N. C.
Darlington, S. C.
Bel Air, Md.
Winston-Salem, N. C.
Miami, Fla.
Fort Wayne, Ind.
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Snyder, N. Y.
Milford, N. J.
Harbourton, N. J.
Hume, Mo.
Ansted, W. Va.
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Durham, N. C.
Richmond, Va.
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Richmond, Va.
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Clemmons, N. C.
Grand Rapids, Mich.
York, Pa.
Marshallville, Ga.
Salisbury, N. C.
Kowloonton, Hong Kong
Andrews, N. C.
Mooresville, N. C.
Leesburg, Fla.
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Wheeling, W. Va.
Roanoke, Va.
Pittsburgh, Pa.
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Lancaster, Pa.
Gulfport, Miss.
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Bryantville. Mass.
Hartford, Conn.
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Asheboro, N. C.
Birmingham, Mich.
Burlington, N. C.
Montclair, N. J.
Durham, N. C.
Cleveland Heights, Ohio
Cleveland Heights, Ohio
Elmhurst, Ill.
Charlotte, N. C.

Day, Robert Edward
Dean, William H.
Deimling, Keston John, Jr.
Denny, Earl Rankin
Denunzio, Don Maas
Deschler, Lewis, II
Detrich, Virgil Dewey
Dewan, Edmond Maurice
Diamond, Paul H.
Dickey, Carl O., Jr.
Dinwoodie, John Franklin
Dodge, Paul Gene
Donnell, Robert Lee, Jr.
Doolittle, Richard Arnold
Drew, Robert Dudley
Dufort, Robert H.
Duft, Harry W.
Dumas, Jack
Duncan, F. Parker
Duncan, John Nelson, Jr.
Dunn, David O
Dunn, William Wesley
Eanes, William Thomas
Earnest, William Lee
Earnhardt, Wiley J. P., Jr.
Eason, John Richard
Easterling, William Ewart
Eddy, James R.
Edney, James if.
Edwards, Frank Blodgett
Edwards, Geoffrey Bruce
Ehrhardt, Stephen J.
Elder, Thomas David
Eldridgc, William Butler
Ellis, Lee Duncan, J r.
Ertley, Ronald David
Erwin, Albert Rich
Evans, Phillip William
Falkenburg, Neil E.
Fansler, Richard Eugene
Farquhar, Williain Edward Farrington, John Kirby
Faunce, John Paul
Feild, Richard Worthington
Ferguson, John B.
Ferrin, Darwin Roland
Fickinger, Thomas Edward
Field, Herbert Clinton, III
Finch, Brown Faucette
Finley, Earl B., Jr.
Fisher, Robert Warren
Fitzgerald, Grayson Goode
Flannagan, Jimmy Lynn
Foister, James William, Jr.
Ford, Fraser C.
Fornwald, Reber Eugene, Jr.
Foster, Richard Sparre
Fowler, Gerard Stiles
Fox, George Charles, Jr.
Fox, Randolph Val
Fredricks, Richard Niel
Freeman, Francis
Gage, Gaston Hemphill
Gaines, James Edward
Garrett, John William, III
Gatewood, Willard Badgette, Jr.
Gehweiler, John Andrew, Jr.
Geiger, William Henry
Germino, Dante Lee
Getz, Robert Samuel
Gibbons, John David
Gilbert, Charles Elmer
Gilbert, Joseph Corthell
Gilmore, Charles Nelson
Glendenning, Charles Edward, Jr.
Glenn, Bruce Good win
Glenn, James H.
Goddard, W. C. Bryant
Goldstein, Garry Arnold

Tampa, Fla.
Live Oak, Fla.
River Forest, Ia.
Asheville, N. C.
Louisville, Ky.
Bethesda, Md.
Snyder. Texas
Forest Hills, L. I., N. Y.
Cedarhurst, N. Y.
Toledo, Ohio
St. Petersburg, Fla.
Rochester, N. Y.
Asheboro, N. C.
Wallingford, Conn.
Old Greenwich, Conn.
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Raleigh, N. C.
Charlotte, N. C.
Faison, N. C.
Lexington, N. C.
Bethesda, Md.
Edenton, N. C.
Tampa, Fla.
Raleigh, N. C.
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Scotia, N. Y.
Burlington, N. C.
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Kingston, Pa.
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Dover, Dela.
Huntington, N. Y.
Rocky River, Ohio
Grosse Pointe, Mich.
Thomasville, N. C.
Moorestown, N. J.
Baltimore, Md.
Groton, Mass.
Huntington Park, Calif.
Coopersport, Pa .
Martinsville, Va.
Thomasville, N. C.
Roanoke, Va.
Wauchula, Fla.
Cheniton, Va.
Bristol, Va.
Chapel Hill, N. ${ }^{\text {C. }}$
Baltimore, Md.
Bloomsburg, Pa .
Washington, D. C.
Bronxville, N. Y.
Teaneck, N. J.
New Orleans, La.
Miami Beach, Fla.
Larchmont, N. Y.
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Sarasota, Fla.
Warrenton, N. C.
Pelham, N. C.
Jamaica, N. Y.
Leesburg, Fla.
Durham, N. C.
Brooklyn, N. Y.
Maplewood, N. J.
Wilmington, N. C.
Havre de Grace, Md.
Belle Vernon, Pa.
Larchmont, N. Y.
Lexington, Ky.
Washington, D. C.
Roslyn, I. T., N. Y.
Norfolk, Va.

Goldstein, Harold M.
Goode, Guerry D
Gordon, Bruce Joel
Gorrell, Robert Pinkney
Gould, Don W.
Graham, Frank R.
Grant, Truett A.
Graves, Charles Edward
Gray, Gene Woodrow
Green, Ray G.
Greenberg, Allen
Greene, John C.
Greenwald, Stuart Morris
Gregory, Bobbie L.
Griffith, Edwin Richard
Grillo, Robert L
Grinaker, Arne James
Gross, Kenneth Eugene
Grove, Gordon V.
Gwinn, Charles Leslie
Gwynn, Paul Andrew
Haddad, Gilbert A.
Haines, Collins H.
Haislip, Donald Ray
Hall, Douglas C.
Hall, James Samuel, Jr.
Hall, Robert Rhett
Hall, Robert V.
Hamilton, James W.
Hammerberg, Charles M.
Hancock, Donald
Hanes, William P.
Hanner, Richard R.
Hansbarger, Luther Clark
Harris. Charles Anthony
Haskell, Weston W.
Hassler, William L.
Hathaway, Robert Graham
Havens, Robert M.
Hayes, Daniel M.
Haynes, Hilliard Galbraith, Jr.
Hazel, Gerard Bernard
Heath, Richard J.
Heckert, Richard John
Hediey, Gilbert Parsons
Heiney, John H., Jr.
Herndon, William Wesley
Hicks, Samuel Alfred
Higgins, Edward Alton
Hill. Boyd Howard, Jr.
Hilliard, Roy Chamblee
Hite, Charles Lind
Hobbs, Russell George, Jr.
Hodge, Hugh Lenox
Hodgin, John Nolan
Hoey, Henry Lewis
Hoffman, George Pearson
Hogue, David G.
Holben, Carl Eugene, Jr.
Holbrook, James Edwin
Holder, Howard Eugene
Hollett, Alan Morton
Hollowell, James Curtis
Horner, Robert Bruce
Horton, Lawrence David
Horton, Raymond E.
Hosier, Charles Taylor
Houk, J. Edwin
Houser, Roland Baxter
Howard, Henry deBignon
Howard. Robert MacKay
Howe. William Albert
Howell, Donald S.
Howell, Ray Ronald
Huffstickler, Thomas Stephen
Hulbert, Kenneth Martin
Hull, Robert Miller
Humphrey, Joseph William
Humphries, John O'Neal

Atlanta, Ga .
St. Augustine, Fla.
Hamden, Conn.
Greensboro, N. C.
Tampa, Fla.
Charlotte, N. C.
High Point, N. C.
Staten Island, N. Y.
Jasper, Ala.
Fayetteville, N. C.
Danville, Va.
Kansas City, Mo.
Middletown, N. Y.
Detroit, Mich.
Leesburg, Va.
Fair Lawn, N. J.
St. Petersburg, Fla.
York, Pa.
Charlotte, N. C.
Miami, Fla.
Clinton, Md.
Daytona Beach, Fla.
Palmyra, N. J.
Rocky Mount, N. C.
Buffalo, N. Y.
Fayetteville, N. C.
Salisbury, N. C.
Salisbury, N. C.
Winter Park, Fla.
McKeesport, Pa .
Orion, Ill.
Walkertown, N. C.
Asheville, N. C.
Welch, W. Va.
York, S. C.
Towaco, N. J.
Shaker Heights, Ohio
Hartsdale, N. Y.
Miami, Fla.
Middletown, Conn.
Charleston, S. C.
New York, N. Y.
Robinson, Ill.
Youngstown, Ohio
Leonia, N. J.
New York, N. Y.
Marshville, N. C.
Worchester, $\dot{\text { N. }}$. .
Framingham, Mass.
St. Petersburg, Fla.
Middlesex, N . C .
Henderson, N. C.
Wheeling, W. Va.
Silver City, N. M.
Thomasville, N. C.
Faison, N. C.
Durham, N. C.
Croton-on-Hudson, N. Y.
Zelionople, Pa.
Durham, N. C.
Andrews, N. C.
Wilmington, Dela
Takoma Park, Md.
Malverne, N. Y.
Flemingsburg, Ky.
Norfolk, Va
Suffolk, Va.
Rutherford College, N. C.
Dellwood, N. C.
Savannah, Ga.
Savannah, Ga.
Pittsburgh, Pa.
Suffolk, Va.
Poland, Ohio
Gastonia, N. C.
Danbury, Conn.
Jacksonville, Fla
Ellwood City, Pa.
Columbia, S. C.

Hunter, James J.
Hurst, David Eugene
Hussey, George F., III
Hutchinson, James R.
Innamorato, Anthony John
Ira, Stewart B.
Jackson, Nelson Pointer
Jackson, Theodore H., Jr.
Jacobs, Roy Marshall
James, Charles H.
James, Gene L
James, Walter Scott, Jr.
Jarecki, Richard W.
Jennings, Bruce Daniel
Jensen, Robert Leif
Jessup, Alvah DeWitt
Johnson, Eugene Joseph
Johnson, Henry Allen
Johnson, James
Iohnson, Richard Allan
Johnson, Richard Gibbs
Johnson, Robert B.
Jones, Fletcher Ryan
Jones, Grover Stephen
Jones, Robert Woods
Jones, William Henry, III
Joyner, George Richardson
Karageorge, Sotirios A.
Kasey, Douglas E..
Katz, Stan
Katzinski, Emil Fred
Kehlor, Gerard Evan
Keller, Thomas Franklin
Kelley, George Erving
Kennedy, Kermit Doyle
Kennemore, Douglas Ervin
Kesler, William Earl
Keziah, John Washington
King, Aubrey Burns
King, Joseph Edward
Kintz, George Jerry
Klein, Arthur Jerome
Klisanin, Steve Daniel
Knight, Kinchen Coffield
Knotts, Clarence Cole, Jr.
Knowles, Francis, Jr.
Kohler, Richard Henry
Kozma, Alex J.
Kramme, Gerald Andrew
Kuhn, Joseph Michael
LaCaruba, Christian
Lance, Thomas L.
Landon, James C.
Lane, Henry J., Jr.
Lassiter, Vernon Clarke, Jr
Laughlin, David Kent
Laurer, Donald Charles
Laveen, Walter E.
Lawrence, James D.
Lea, William
Leach, George Carson
Leach, Robert Joseph
Lee, Robert Bird
Lehman. Maurice Robert
Lenox, George A.. III
Lerps, David Arthur
Lesneski, Richard Paul
Levergood, Charles Clyde
Levine, Jerome Ivan
Lewis, Joseph William, Jr.
Lineberger, Joe Glenn
Loane, Jabez Whitford
Logan, Jim M.
Long, Sherman Edgar, Jr.
Looper, Charles Burdine
Lowndes, John Foy
Lucas, Jacklyn H.
Luce, William M.
Luck, Jean Magill

Valley Stream, L. I., N. Y.
Middlesboro, Ky.
Norwalk, Conn.
Lilesville, N. C.
Perth Amboy, N. J.
Jacksonville, Fla.
Durham, N. C.
Cheltenham, Pa.
Concourse, N. Y.
Wildwood, N. J.
Newark, N. J.
Waynesboro, Pa
Asbury Park, N. J.
Laurens, S. C.
Staten Island, N. Y.
Glenbrook, Conn.
Rochester, N. Y.
Weldon, N. C.
Fairmont, N. C.
Dayton, Ohio
Washington, D. C.
Drexel Hill, Pa.
Dallas, Texas
Hartsville, S. C.
Stamford, N. Y.
New Bern, N. C
Suffolk, Va.
Williamston, N. C.
Martinsville, Va.
Baltimore, Md.
Hempstead, L. I., N. Y.
Ashland, Pa.
Greenwood, S. C
Durham, N. C.
Durham, N. C.
Greenville, S. C.
Fuquay Springs, N. C.
Burlington, N. C.
Durham, N. C.
Durham, N. C.
Kingston, Pa .
Brooklyn, N. Y.
McKeesport, Pa.
Whitakers, N. C
Hamlet, N. C.
Penns Grove, N. J.
St. Albans, N. Y.
Springdale, Pa.
Monroeville, N. J.
West Point Pleasant, N. J.
Phillipsburg, N. J.
Lakewood, Ohio
Buffalo, N. Y.
Henderson, N. C.
Winston-Salem, N. C.
Oak Park, Ill.
Rochester, N. Y.
Tucson, Ariz.
Macon, Ga.
Lynchburg, Va.
Haw River, N. C.
Sioux Falls, S. D.
Cherry Point, N. C.
New York, N. Y.
Ridgefield Park, N. J.
Tuckahoe, N. Y.
Stratford, Conn.
Stroudsburg, Pa .
Laurelton, N. Y.
Fall River. Mass.
Maiden, N. C.
Ruxton, Md.
Asheville, N. C.
Durham, N. C.
Gastonia, N. C.
Durham, N. C.
Belhaven, N. C.
Miami, Fla.
Orange, N. J.

Lyon, Carlos M
IIcAdams, James Richard
McBride, Oris Kenneth
McCash, Thomas William
McCluskey, John Cullens
McFarling, Harry Montgomery, Jr.
McGeihan, Donn
McLeod, Ian Cameron
McLoney, Thorne Clay
MacEwen, Wallace Scott
Maddox, Clyde Overton
Magaw, Milo E
Mallard, Zearl Warren
Malone, Francis Patrick, Jr.
Manfra, Nicholas Maurice
Mann, James Clifford
Mann, Milton Bernard
Marks, Dennis Gilbert
Markwood, Paul Webb, Ir.
Marshall, Robert Edward
Martin, Charles Edward
Martin, Donald Francis
Martin, Posey Lester
Massey, Henry Reese
Massey, James Andrew, Jr.
Matheson, Donald Gilchrist
Maus, Lewis McKinney
Max, William Edward
Mecartney, Bruce W.
Mecum, James Leight
Medley, Ben Edwards
Medlin, Henry Cleo
Mellin, William D.
Merritt. Mervin Frank
Metropol, Harry Jack
Meyer, Warren Edward
Michael, James
Michael, Robert Frederick, Jr.
Miller, James Sherwood
Miller, Thomas
Minnick, Donald Athey
Mitchell, David Lee
Mitchell, Thomas L.
Montgomery, Douglas Gale
Moon, William C.
Moon, Opal Henry
Moore, Ellis William
Morgan, Robert Whittelsey
Morris, Robert Johns
Morrison, Norton Hotchkiss
Morse, Theodore Frederick
Moseley, Robert Galloway
Mozingo, Gerald
Muchoney, Charles W.
II unro, Douglas Barry
Murkett, Philip T.
Mylrea, Bruce William
Naugle, David R.
Nelson, Forrest Eugene
Newman, Bruno H
Nial, George Anderson
Niehaus, M. Stanley
Niero, Robert Joseph
Nixon. Edward Calvert
Nordham, Robert
Norman, Matthew White
Norris, Gene Austin
Northrop, Samue
Norton, Dudley Marshall
Nuckolls, Joe Allen
Nylen, David Walker
O'Donnel, Jon Park
Oliver, Bernard Ross
Ost. John William
Padgett, Robert Louis
Paff. Thomas Dixon
Painter, Billy Edward
Parker, David Preston
Parrish, Billy Hiram

Decatur, Ill.
Burlington, N. C.
Durham, N. C.
Oil City, Pa.
Wheeling, W. Va.
Danville, Va.
Hartsdale, N. Y.
Tenafly, N. J.
Cynthiona, Ky.
Charleston. W. Va
Fullerton, Pa .
Oregon, III.
Trenton. N. C.
Miami, Fla.
Orange, N. J.
Poland, Ohio
Raeford, N. C.
New York, N. Y.
Lowland, Tenn
Brooklyn, N. Y.
Pottsville, Pa.
Durham, N. C.
Greensboro, N. C
Charlotte, N. C
Smithfield, N. C
West Orange, N. J.
Reidsville, N. C.
Baldwin, N. Y.
Hinsdale, Ill.
Winston-Salem, N. C.
Warren, Ohio
Concord, N. C.
Gardner, Mass
Greensboro, N. C.
Manning, S. C.
Rochester, N. Y.
New Hyde Park, N. Y.
Greensboro, N. C.
Hazelton, Pa.
Annapolis, Md.
Trenton, N. J.
Canton, N. C.
Brevard, N. C.
Webster Groves, Mo.
Atlanta, Ga.
Atlanta, Ga.
Andover, Mass
Farmville. N. C.
Punxsutawney, Pa .
Madison, Conn
Elkins Park, Pa.
Bluefield, W. Va.
LaGrange, N. C.
Mount Pleasant, Pa
Grosse Pointe, Mich.
Wheeling. W. Va.
Chester, Pa
New York, N. Y.
Charlotte, N. C.
New York. N. Y.
Fort Lauderdale, Fla.
Neptune Beach, Fla.
Tenafly, N. J.
Mengen Mills, Pa.
Waldwick, N. J.
Plymouth. N. C.
Conway, S. C.
Greenville, N. C.
Cazenovia, N. Y.
Hendersonville, N. C.
Clearwater, Fla
Madison, Wis.
Durham, N. C.
Oradell, N. J
High Point, N. C
Philadelphia, Pa.
Mount Holly, N. C.
Durham, N. C.
Mount Gilead, N. C.

Parrish, Fred K.
Patterson, James Thomas
Patton, Charles Thomas
Patton, James Benjamin, Jr.
Patty, Dean Ward
Pavlicek, Philip Charles
Peck, Kenneth O.
Peele, Warren Dozier
Person, Gilbert Harvey
Peters, Ferguson E.
Peterson, David Matthew
Petrakos, George S.
Pfeffer, Roger H.
Phillips, Richard Linwood
Pierry, Robert Francis
Piglowski, Alphonse Aloysius
Podolle, Richard H.
Poe, William Frederick
Polity, Victor William
Porter, William Joseph
Potter, Louis K.
Powell, Albert Henry, Jr.
Puwell, Ernest Clifton, Jr.
Kambo, J. Warren
Ramsey, Clyde Harmon
Ratchford, George Rufus, Jr.
Rathbun, Donald Allison
Ratliff, Dale
Rauh, Edwin S.
Redmond, James Seymour
Reece, Benny Ramon
Reed, Marshall Foster, Jr.
Reid, Wiley G.
Reilly, Richard Clarke
Renz, Harry Ward
Reynolds, Edgar Wonn
Reznick, Richard A.
Rice, Charles Arnsworth, III
Richardson, Richard B.
Richmond, James Bethel
Ricker, Hunt Norman
Rickey, Robert Musser, II
Riker, Rodney M., Jr.
Rinaldi, Roger E.
Riquezes, Jose Rafael
Rist, Monroe Duayne
Ritch, James E., Jr.
Ritchie, Henry Thomas, III
Roarick. Marshall Eugene
Roberts, Ivon Elwood
Roberts, Ray C.
Robertson, Arthur Burdett
Robertson, James Allan
Robinson, William Gale
Rochelle, Paul Edwards
Rockwood, John, Jr.
Roe, Donald Winston
Rogers, Nolan Howard
Rose, Billy
Rosenbaum, Norman M. Rosenlerg, John Meinhardt
Rosenmund, Robert Alfred
Ross, Robert Richard
Rowe, Arthur Wilson
Rowell, Robert E.
Kudge, William Jerome, III
Rumer, Ralph R., Jr.
Sack, Martin, Jr.
Sanders, Thomas Griffin
Sanders, Willian Eugene
Santamaria, Angelo R
Sarles, Frederick W.
saylor, John H., Jr.
Saylor, Thomas Paul
Schaffer. William Ronald
Schafroth, Donald Milton
Schafroth, Douglas W.
Scheffer, Miles Howard
Schellenger, Norman Donohue

Durham, N. C.
Pittsburgh, Pa.
Morganton, N. C.
Canton, N. C.
Kingsport, Tenn.
St. Petersburg, Fla.
Ft. Lauderdale, Fla.
Fountain, N. C.
Lambert, Miss.
Miami Beach, Fla.
Elmhurst, L. I., N. V'.
Greenville, S. C.
St. Albans, L. I., N. Y.
Drexel Hill, Pa.
Teaneck, N. J.
Depew, N. Y.
Irvington, N. J.
Tampa, Fla.
Teaneck, N. J.
Bridgeport. Conn.
Patchogue, N. Y
Durham, N. C.
Durham, N. C.
Greenwood, s. C.
lynchburg, Va.
Gastonia, N. C.
Tampa, Fla.
Hinton, W. Va.
Baltimore, Md.
Asheville, N. C.
Asheville, N. C.
Brightwaters, N . Y .
Durham, N. C.
Birmingham, Mich.
Norwood, Pa.
Cumberland, Md.
Torrington, Coun.
Ridgewood, N. J.
Durham, N. C.
Hillsboro, N. C.
Tampa, Fla.
Durham, N. C.
Rockrille Centre, N. Y.
North Bergen, N. J.
Caracas, Venezuela
Erie, Pa.
Charlotte, N. C.
Durham, N. C.
Rockville Centre, N. Y.
Mount Holly, N. C.
Gastonia, N. C.
Rutherfordton, N. C.
Framingham, Mass.
Smithfield, Va.
Durham, N. C.
Atlanta, Ga.
Princeton, W. Va.
Baltimore, Md.
Kenly, N. C.
Norfolk, Va.
Gastonia, N. .C.
Woodport, N. J.
Miami, Fla.
Nutley, N. J.
Norfolk. Va.
Lenox, Mass.
Bloomsburg, Pa .
Jacksonville, Fla.
Asheville, N. C.
Albemarle, N. C.
Baltimore, Md.
Greensboro, N. C.
Durham, N. C.
Bridgeport, Coun.
Havana, Cuba
Havertown, Pa
Havertown, Pa.
Forest Hills. N. Y.
Miami Beach, Fla.

Schieber, Richard M
Schmidt, Roland A.
Schwartz, Donald Arthur
Schwartz, Ronald Muni
Seaton, J. Ralph
Self, Joseph Morrison Sells, George Monroe Seytert, Joseph Harold, Jr. Sharpe, John Frank Sheary, Clyde Norman Sheppard, Donald Lewis Shipp, William Beasley
Shutelt, Charles E. Simmonds, Stuart Wilcox smith, Charles
smith, Ernest William smith, Houston Dillard Smith, James C.
smith, sidney Rufus, Jr. smith, Velear Courtlandt smith, Walter Lewis smith, Whitman Erskine, Jr. Sommers, Richard L.
sook, George Ralph Spach, John Thom spearman, Cecil Eldon Spell, Richard Pudy, Jr. spelman, Stewart R. spencer, James Y. Spivey, Bobby Atwood Spotiord, Donald Edward Stahl, Frederick Andrew stark, Lawrence Wendell Stark, Kufus Haywood Starnes, William B.
Stathacos, Eustace James steele, Robert Leak Steffey, Fred Henry
Stephenson, Paul Dwight, Jr.
Stevenson, John Kerman
Stewart, Thomas, III
Stopp, Donald Louis
Stout, Edward B. Stowe, Edward Wells Strauch, David Mahlon Strauss, Robert Perry Streeter, Richard N. Strickland, Daniel Stephen Strickland, Donald Bennett Stroud, J. Barry Stuart, Eugene W., Jr. Stubbs, Robert Walter Subotich, Michael, Jr.
Suit, James Ray
Swain, Joe Oliver
Swartz, Neil Hart
Swecker, Edward Preston
Sweeton, Richard Frederick
Swing, Mervin, Jr.
Sykes, Richard Lee
Tamillo, Joseph Richard
Tate, John Bibb, Jr.
Taylor, George Franklin
Taylor, Morris Ray
Thomas, Evans George
Thompson, Charles T.
Thompson, Charles William
Thompson, William Francis, III
Throckmorton, Charles W., III
Tice, James Richard
Tillman, Roy Davis
Tinsley, Robert S.
Tolleson, George Clinton
Tornquist, David Adams
Trundle, Albert Sidney
Truelove, John Robert
Tucker, Royster Milton
Turner, John Calhoun
Urda, Julius John
Underwood, Roland Hilton

Sidney, Ohio
Pikesville, Md.
Brooklyn, N. Y.
Stamford, Conn.
Uniontown, Pa .
Greensboro, N. C.
Orange, Texas
Philadelphia, Pa.
Greensboro, N. C.
Camden, S. C.
Wilmington, Del.
Durham, N. C.
High Point, N. C.
Mansfield, Mass.
Wilmington, N. C.
Danville, Va.
Dayton, Ohio
Wilmington, N. C.
Greensboro, N. C.
Charleston, W. Va.
Boone, N. C.
Albemarle, N. C.
Kingsport, Tenn.
Somers Point, N. J.
Winston-Salem, N. C.
Hinsdale, Ill.
Clinton, N . C.
Rockville Centre, N. Y.
Winston-Salem, N. C.
Suffolk, Va.
Swarthmore, Pa.
Manhasset, N. Y.
Ridgewood, N. J.
Greenville, N. C.
Burlington, N. C.
Raleigh, N. C.
Rockingham, N. C.
Charlotte, N. C.
Wadesboro, N. C.
Durham, N. C.
Bridgeport, Conn.
Pen Angyl, Pa.
Greensboro, N. C.
Washington, N. C.
Benton, Pa .
Wynnewood, Pa.
Belleville, N. J.
Douglasville, Ga .
Rich Square, N. C.
Upper Darby, Pa.
Tampa, Fla.
Collingswood, N. J.
Perth Amboy, N. J.
Creedmoor, N. C.
Asheville, N. C.
Rye, N. Y.
Washington, D. C.
Haddonfield, N. J.
Philadelphia, Pa.
Suffolk, Va.
Duluth, Minn.
La Grange, Ga.
Henderson, N. C.
Durham, N. C.
Raleigh, N. C.
Collingdale, Pa.
Creedmoor, N. C.
Honolulu, T. H.
Richmond, Va.
Charlotte, N. C.
Mount Vernon Springs, N. C.
Lynchburg, Va.
Greenville, S. C.
Rock Hill, S. C.
Wilmington, N. C.
Pinnacle, N. C.
High Point. N. C.
Fair Bluff, N. C.
Duquesne, Pa .
Lake Worth, Fla.

Upchurch, Carlton Eugene
Upchurch, Harold M.
Vance, Thomas Doyle
Van Deventer, Robert Rinard
Vann, James Earl
Varellan, Christ Arist
Vaughn, Stuart Hugh
Von Arx, Wallace Christopher
Wacker, August Herbert
Wainwright, Stephen A.
Walker, Clarence Elmer
Walker. John B.
Walker, Wesley Clarence
Wall, Patterson
Wallace, Alston Allen
Wallace, Edward Owens
Warden, Richard V.
Warden, Robert Allen
Warlick, Harry Eli
Warren, C. Tommy
Waser, Charles W.
Watov, Richard Halpern
Watson, Charles Sullivan
Watson, Robert Clifford
Waugh, Charles R.
Webb, Benjamin D.
Webb, Robert Elmer
Weil, William Walter
Welchman, Charles Barret
Wells, Joe Wesley
Werber, William Waldemar
White, Bennett Briggs
White, Robert Louis
White, Robert Torrence
Whitfield, Ralph Finley, Jr.
Whynall, Richard Gorton
Wiggins, James Thomas
Wilbanks, George Dewey, Jr.
Wilbur, Malcolm Ray
Wiley, D. Kent
Wilks, Seymout Ivan
Wi11, Horace Jacob
Williams, Edward L., Jr.
Williams, Kenneth Sterling
Wilson, Colon Hayes, Jr.
Wilson, Rollin Hugh
Wilson, Walter Q.
Winfield, Gordon T., Jr.
Winslow, William Troy
Winter, Thomas W.
Wolff, Robert Alpha
Woodfield, Richard Thomas
Woodward, John Horton
Woolard, William Leon
Woolslayer, Joe Robert
Wright, Donald J.
Wright, William Vaughn
Wynne, George J.
Xiques, Paul Anderson
Young, James $\mathbf{F}$.
Younts, Robert W.
Zeeman, Charles Gordon
Zigmont, Robert Stanley
Zimmerman, Joseph
Zimmerman, Robert Tracy
Zimtbaum, William Emerich

Durham, N. C.
Angier, N. C.
Spruce Pine, N. C.
Princeton, N. J.
Clinton, N. C.
Roanoke, Va.
Detroit, Mich.
Rochester, N. Y.
Jamaica, N. Y.
Indianapolis, Ind.
Durham, N. C.
Poland, Ohio
Durham, N. C.
Birmingham, Mich.
Gainesville, Fla.
Havertown, Pa.
Springfield, Mo.
Hempstead, N. Y.
Newton, N. C.
Durham, N. C.
Winston-Salem, N. C.
Trenton, N. J.
Anderson, S. C.
Camp Butner, N. C.
Galax, Va.
Roanoke Rapids, N. C.
Rochester, N. Y.
Greenfield, Ind.
Ridgewood, N. J.
Montgomery, Ala.
College Park, Md.
Plymouth, N. C.
Belmont, Mass.
Masonville, N. J.
Durham, N. C.
Nutley, N. J.
Durham, N. C.
Tampa, Fla.
Wellsville, N. Y.
Erie, Pa.
Newport News, Va.
Raleigh, N. C.
South Weymouth, Mass.
Charlotte, N. C.
Marshallberg, N. C.
Marcellus, N. Y.
Greenville, N. C.
Petersburg, Va.
Goldsboro, N. C.
Utica, N. Y.
Great Neck, N. Y.
Washington, D. C.
Cape Cod, Mass.
Pinetown, N. C.
Tulsa, Okla.
Anderson, S. C.
Greensboro, N. C.
Willis Wharf, Va.
Ridgewood, N. J.
Havertown, Pa .
High Point, N. C.
Englewood, N. J.
Meriden, Conn.
Leesburg, Va.
Wichita Falls, Texas
Newton, N. C.

Sophomore Class
Adams, Charles A., Jr.
Alexander, Uhlman Seymour
Allen, Frank Conrad
Allen, Ira Dayton
Allen, Philemon Macon
Allison, Raymond Dean
Anderson, Robert Eugene
Archambault, Norman
Armour, William John
Ashe, Vance Baumgardner
Pleasantville, N. Y.
Charlotte, N. C.
Washington, D. C.
McKeesport, Pa.
Washington, D. C.
Washington, D. C.
Wheeling, W. Va.
West Warwick, R. I.
Washington, D. C.
Asheville, N. C.

Ashley, Larry Lee
Baehr, Bruce Findlay
Bafford, Edward Donald
Bagley, Edward Orick
Baker, Gordon
Baker, Harrell Woodrow
Baldwin, Jackson Lee
Ball, Walter Herbert
Bangle, Robert Edward
Banks, John Joseph
Bannister, Thomas Turpin
Barfield, Victor Warren
Barge, Beverly Lake
Barranco, Frank Thomas
Barwick, Howard Eugene
Bates, Robert Kenneth
Beal, Jesse Capps
Becher, George David
Beck, Charles Edward
Bell, William Goebel
Bennett, Calvin Fletcher
Berry, Maxwell Kennedy
Best, Lee James
Bickel, Robert Artliur
Binda, Geurge Edward
Bissette, C. Morgan
Bitter, Edwin Ward
Blalock, William Shaw
Blanton, Paul Gorton
Bodenhamer, David Lee
Boehm, James Vernando, Jr.
Boone, Charles Chaffin
Boynton, John Howe
Bradford, Harold Keith
Brickman, Thayer Ellis
Bridges, Edwin Burke
Brill, William
Brokenshire, Melvyn Royal
Brooks, Eugene Clyde, II
Brooks, George Harris, III
Brooks, Thomas Donald
Brooks, Val Carlton
Browder, Leslie Ephrium
Brown, Bernard Owen
Brown, Samuel Hoyt
Brown, William Eugene
Brunson, Ronald Augustus, Jr.
Buchanan, Robert Roy
Burnett, John Carver
Buschman, Richard A.
Butler, Clifford Leroy, Jr.
Butler, James Edward
Butler, William Warren
Butrym, Robert Earl
Buttner, James Hilton
Byers, Magness William
Byron, Alexander
Callaway, Paul Frederick
Campbell, Clifford William
Cannon, Samuel E.
Carpenter, Raymond Lewis, Jr.
Carpenter, Robert Rhyne
Carroll, John Norman
Cavaliere, Benjamin Albert
Cherry, Edwin Arlington, Jr.
Chritton, John Evans
Clark, Jonathan Yates
Clark, Robert Beaumont
Clifton, Yerger Hunt
Coble, James Herbert
Cockran, Norman Booker

* Collins, Howard William

Colvin, John Cannon
Condon, Irvin Matrice
Conti, Gino Donti
Cooke, Clifton Noyes
Cooper, Thomas Walker
Cottman, Brooke Powell

* College of Engineering as of February, 1950.

Greenville, S. C.
McKeesport, Pa.
Baltimore, Md.
Raleigh, N. C.
Ventnor City, N. J.
Durham, N. C.
Durham, N. C
Fayetteville, N. C.
Concord, N. C.
Greenwich, Conn.
Urbana, Ill.
La Grange, N. C.
Durham, N. C.
Baltimore, Md.
Miami, Fla.
Mount Vernon, N. Y.
Nashville, N. C.
Longmeadow, Mass.
Harrisburg, Pa .
Norwood, Ohio
Albemarle, N. C.
Morganfield, Ky.
Dunn, N. C.
Reading, Pa.
Medford, Mass.
Enfield, N. C.
West Orange, N. J.
Lexington, N. C.
Houston, Texas
Winston-Salem, N. C.
Zelienople, Pa .
Boone, N. C.
Plandome, L. I., N. Y.
Minneapolis, Minn.
Dorchester, Mass.
Thomasville, N. C.
Locust Hill, Va.
Macon, Ga.
Durham, N. C.
Apex, N. C.
North Little Rock, Ark.
Wilson, N. C.
Winston-Salem, N. C.
Grand Forks, N. D.
Tallapoosa, Ga.
Winston-Salem, N. C.
Durham, N. C.
Bluefield, W. Va.
St. Petersburg, Fla.
Alexandria, Va.
Wilmette, Ill.
Paintsville, Ky.
Atlanta, Ga.
McKeesport, Pa.
Baltimore, Md.
Charlotte, N. C.
Buzzards Bay, Mass.
Belleville, Ill.
Beachwood, N. T.
St. James, N. Y.
West Orange, N. J.
Cherryville, N. C.
Malden, Mass.
Norristown, Pa.
Tarboro, N. C.
Birmingham, Mich.
Leesburg, Fla.
Bridgeport, Conn.
Jackson, Miss.
Concord, N. C.
Columbus, Ga.
Newark, Ohio
Pleasant Ridge, Mich.
Wildwood, N. J.
Phillipsburg, N. J.
Danvers, Mass.
Tampa, Fla.
Baltimore, Md.

Cox, Ernest Howard
Cox, John William
Crandall,Chauncey Warren, III
Crane, James Dewar
Crawford, Frank Teller
Crawford, Malcolm Francis
Crawford, Narvel James
Crowder, Richard Joseph
Currin, William Dodson
Daine, Donn David
Dale, Francis Edivard
Dalgleish, Thomas Arthur
Dalton, Robert Erwin
Dannenberg, Richard Bruce
Davidson, Williams T., Jr.
Davis, Jolyon Edmund Lex
Davis, Richard Amos
Davis, Robert Louis
Davis, Robert Paul
Dawes, Kenneth Janney, Jr.
Deal, C. Pinckney, Jr.
Delchamps, Alfred Frederick
DeLong, David Deisher
DeMidowitz, Bill Pete
Denny, George Richard
Desvernine, Kenneth $\mathbf{P}$.
Dickson, Robert Eric
Dilts, Charles Robert
Divine, Thomas McCallie, Jr.
Dohner, Donald Canfield
Donovan, James Joseph, Jr.
Douros, John D., J r.
Downing, William Thomas
Doyle, Kenneth Ray
Dukes, Herbert Trice
Duncan, Guy Eugene
Duncan, John Julian
Dunne, Walter Vincent
Dunson, John Clark
Durham, Lee Ballinger
Earon, Blain Allen
Eaton, Harold Thomas, Jr.
Edwards, Claude Everett, J r.
Ellington, William Thomas
Engberg, John Pierson
Epps, Charies Lee
Epps, Joseph Schrum
Evans, Merle D., Jr.
Fahey, Francis Patrick
Faley, Richard William
Farley, Francis Claybourne
Farmer, John Lovelace, Jr.
Farquhar, Richard Lewis
Feather, Bennie W.
Felt, Jeremy Pollard
Felts, Robert Lee
Finberg, Robert Louis
Fisher, William Prescott
Fleming, William McCurdy
Flint, Thomas Levings
Folk. Chris Evans
Forbes, Gordon Maxwell
Ford, John Byron
Foreman, Thomas Lee
Fornes, Guy Leo, Jr.
Foster, Kenneth Earl
Fox, John Howard
Franklin, Andrew Johnson
Franks, Stephen Field
Fraser, John, III
Fulmer, Elroy Menasco
Game, Paul, Jr.
Garlington, James Conway
Garvine, Richard Earle
Gaston, Hariey Black, Jr.
Gausman, William Henry, Jr.
Genette, Sidney Wilson, Jr.
Gibhs, Robert Coleman
Gibson, Harold Eugene, Jr.

Durham, N. C.
Mount Airy, N. C.
East Orange, N. J.
North Warren, Pa.
Hartsville, S. C.
Wilmington, N. C.
Asheville, N. C.
High Point, N. C.
Oxford, N. C.
Fort Knox, Ky.
Ventnor City, N. J.
Westminster, Md.
Orlando, Fla.
Cedarhurst, L. I., N. Y.
Annapolis, Md.
Raleigh, N. C.
Newark, Del.
Huntington, W. Va.
Schuylkill Haven, Pa.
Lawrenceville, N. J.
Charlotte, N. C.
Mobile, Ala.
Reading, Pa .
Neptune, N. J.
Richmond, Ind.
North Plainfield, N. J.
Arlington, Va.
Durham, N. C.
Kingsport, Tenn.
Havertown, Pa.
Brighton. Mass.
Clifton, N. J.
Decatur, Ill.
Winston-Salem, N. C.
Tampa, Fla.
Fayetteville, N. C.
Hempstead, L. I., N. Y.
Garden City, N. Y.
La Grange, Ga.
Birmingham, Mich.
Altoona, Pa.
Brockton, Mass.
Pen sacola, Fla.
Warrenton, N. C.
Bradenton, Fla.
Newton, N. C.
Newton, N. C.
Massillon, Ohio
Worcester, Mass
West Hartford, Conn.
Charleston, W. Va.
Wilson, N. C.
Monessen, Pa.
Curryville, Mo.
Putnam Valley, N. Y.
Hickory, N. C.
Englewood, N. J.
Grosse Pointe, Mich.
Philadelphia, Pa.
Joilet, Ill.
Charlotte, N. C.
Patchogue, N. Y.
Alexander City, Ala.
Durham, N. C.
Durham, N. C.
Winston-Salem, N. C.
New Hyde Park, L. I., N. Y.
Washington, N. C.
Hendersonville, N. C.
Jacksonville, Fla.
Honolulu, T. H.
Tampa, Fla.
Birmingham, Ala.
Wilmington, Del.
Belmont, N. C.
South Orange, N. C.
Memphis, Teln.
Bath, N. C.
Kent, Ohio

Gibson, James Franklin
Gilliam, John Rue
Gilpatrick, Elmer Ellsworth
Glaze, Joe B.
Glaze, Richard
Glenn, Earl Hollis
Glennie, John Raymond
Gobbel, Luther Russell
Goebert, Herbert William, Jr.
Goettsch, LaVerne Stanley
Goldwasser, Maxwell Robert
Gorham, Alden Burr
Gosnell, Clarence William, Jr.
Grabowski, Edwin Theo
Graham, Joseph Lawrence
Graham, Otho Leslie
Grahl, Bobby Howard
Graye, Alexander
Green, Lawrence Amon
Greenebaum, Howard M.
Groat, Richard Morrow
Grune, George Vincent
(iude, Robert L.
Guest, Floyd Emory, Jr.
Gup, Mark Kramer
Haft, Richard Jay
Fagberg, Roy Eugene, Jr.
Hager, Dudley Pierce
Hager, Gerald Leonard
Hahn, Raymon Jenkin
Hannin, George Alphonse, III
Hanson, William Robert
Herciin, Paul, III
Haraison, James Arthur, Jr.
Harrington, Alfred Merle
Harris, Christie Gus
Harris, William Randall
Hart, James Alexander, Jr.
Haskins, John William
Hawkins, Raymond Landis
Hayes, Ector Patterson, Jr.
Hayes, John Harry, Jr.
Heller, Paul Edward
Heller, William S.
Henderson. Thomas Briggs, Jr.
Hennessee, M. Nixon, III
Herbert, Dave Furman
Hess. Dexter Winfield
Hiers, Marion Glenn
1Tiscins, Louis
Hilker. John Hamilton
Hill, Richard Jonathan
Hollandsworth, Roy Melvin
Hollenbeck, William Charles
Hooker, Alfred Frank, Jr.
Hooker, Raymond Bright, Jr.
Hoover, George Berkheiser
Horner, Frank Burke
Horton, Kenneth Irvin
Houser, James Lloyd
Howard, J. Woodford, Jr.
Howard, Michael Ross
Howell, Clewell, Jr.
Howie, John Harvey, J r.
Howse, Ralph Melvin
Hudson, Robert Clarence
Hugus, Wright, J r.
Humphrey, Edwin J., III
Hunt, Charles Jackson
Hurst, Robert Grant
Hilton, James Lee
Hobson, George
Hodgkins, George Clinton
Ingham, Olin H .
Ivey, David Middleton
Johnson, Alfred Fletcher
Johnson, David Dowdell
Johnson, Peter Grayson
Johnson, Richard Salisbury

Wilmington, N. C.
Pine Beach, N. J.
Bangor, Maine
Orlando, Fla.
Orlando, Fla.
Durham, N. C.
Kennebunk Port, Maine
Guilford College, N. C.
Coatesville, Pa.
Winterset, Ia.
New York, N. Y.
Englewood, N. J.
Washington, D. C.
Seymour, Conn.
Nyack, N. Y.
Bartow, Fla.
Asheville, N. C.
Mount Tabor, N. J.
Creswell, N. C.
Baltimore, Md.
Pittsburgh, Pa.
White Plains, N. Y.
Englewood, N. J.
Starr, S. C.
Pensacola, Fla.
New York, N. Y.
Durham, N. C.
Louisville, Ky
Detroit, Mich.
Scarsdale, N. Y.
Paducah, Ky.
Baltimore, Md.
High Point, N. C.
High Point, N. C.
Henderson, N. C.
Washington, D. C.
Asheville, N. C
Oshkosh, Wis.
New Martinsville, W. Va.
Clarksburg, W. Va.
Durham, N. C.
Little Rock, Ark.
Huntington, W. Va.
Pikesville, Md.
Charlotte, N. C.
Concord, N. C.
Roanoke Rapids, N. C.
Rome, Ga.
Orangeburg, S. C.
Nesquehoning, Pa .
Asheboro, N. C.
Poland, Ohio
Salem, Va.
Palm Beach, Fla.
Martinsville, Va.
Kinston, N. C.
Williamsport, Pa.
Brielle, N. J.
Bellevue, Ohio
Washington, D. C.
Prestonsburg, Ky.
Concord, N. C.
Ruxton, Md.
Charlotte, N. C.
Fairfield, Ala.
Winston-Salem, N. C.
Wheeling, W. Va.
Huntington, W. Va.
Pleasant Garden, N. C.
Durham, N. C.
Texarkana, Ark.
Philadelphia, Pa.
Southern Pines, N. C.
Concord, N. H.
Charlotte, N. C.
Warrenton, Va.
Baton Rouge, La.
Baldwin, L. I., N. Y.
Pahokee, Fla.

Johnston, William David
Jones, Leonidas Merritt, Jr.
Jordon, Verner Calvin, Jr.
Joyce, William Ogden
Judd, Arthur William
Kaelin, William George
K.alevas, Vill Arestedes

Keith, Alfred Thomas
Kelley, William James
Kennedy, Horton Parmelee
Kennedy, Richard M.
Kent, Horace Smith
Keziah, Sanford Perry
Kiger, Willie Maxwell
Kime, Richard Charles
King, Arthur Bruce
Kinneman, Rohert Eugene
Kirby, James Chasey, Jr.
Knott, William Emmett
Kobzina, Arnold James
Krayer, Alfred Carl
Kreider, Kenneth Richard
Kulpan, James Neil
Kunkle, Harold W.
Kurzrock, Warren Walter
Lang, Frank Alexander
Larsen, Hyer Peter
Lasseter, Jack Kinney
Latimer, Richard Lee
Latta, Roderick Alan
Lauter, Frederic Martin
Lawson, Herbert Margerum
Lee, Pope Matthews
Leggett, W. Phil
Lehman, John Gress
Leonard, Joe Gaither
Levy, Irving Hirsch
Lewert, Adam $\mathbf{E}$.
Linaweaver, Paul Glenwood
I.anastrom, Malcolm Stuart

Linn, Bruce Oscar
Lipton, Harold Pons
Llenza, Charles Federico
Longley, James Benjamin, Jr.
Lott, Charles Howell
Lott, John Edwin
Loub, Arthur Frederick
Lowenthal, Daniel Ahraham, Jr.
Lucas, William Reed
Lugar, A shby G., Jr.
Lustig, George A.
Lutton, Gerald Clark
Lynch, George Cotchett
Lynch, Walter Kenneth
McAnerney, Marshall Joseph
McArthur, Ray Francis
McCain, William Warren
McCall, Benjamin Waring
McClannan, Ralph Leslie
McCracken, William F.
McDonald, Duard Ray
McGaughey, James Paul
McGeough, Robert Saunders
McGill, Ira Leon, J r.
McGuire. John Joseph
McIver, Douglas C.
McKee, Charles Albert
McKeever, Earle Alexander
McKenzie, Claude Fleatus
McKeown, Earle Wayne
McLean, Leslie Monroe
McLean, Robert Davidson
McLemore, Ralph Stuart, Jr.
McLeod, David Emery
McNair, Barak
McNair, Conrad Buchanan
MeNamara, Thomas Neal
Mack, Leslie Eugene
Maddox, Houston Noble

Massena, N. Y.
Raleigh, N. C.
Buenos Aires, Argentina
New Rochelle, N. Y.
Youngstown, Ohio
East Rockaway, N. Y.
Rockingham, N. C.
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Scarsdale, N. Y.
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Oradell, N. J.
Woodhaven, N. Y.
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Hato Rey, Puerto Rico
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Amityville, N. Y.
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Nashville, Tenn
Oceana, W. Va.
Bronx, N. Y.
Harmony, Pa.
Anchorage, Alaska
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Plandome, N. Y.
Durham, N. C.
Elizabeth City, N. C.
Jacksonville, Fla.
Norfolk, Va.
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Tullahoma, Tenn.
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Chardon, Ohio
Laurinburg, N. C.
Miles City, Mont.
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Laurel, Miss.
Johnstown, Pa.
Athens, Tenn.
South Merrimack, N. H.
Dallas, Texas
Tampa, Fla.
Macon, Ga.
Tenafly, N. J.
Lakeland, Ga
Macon, Ga.
Silver Springs, Md.
Washington, D. C.
Snow Hill, N. C.

Malone, Robert William
Malyniak, Joseph
Mancgan, Warren R.
Martin, David C.
Martin, James Arthur, Jr.
Mason, Jack W.
Mathes, John F.
May, Cecil Dalton
Mead, Dayton Richard, Jr.
Memmoli, Richard Otto
Menken, Kenneth Andrews
Meredith, Michael George
Merwarth, Charles Richard
Michalek, Donald Richard
Midgette, Robert Bryant
Miller, David Edmond
Miller, Emery Elwood
Miller, Robert Allen
Milling, James Reaves
Minick, John Ervin
Mitchell, Billy Pender
Mitchell, David Crerar
Mitchell, Donald Walcutt
Montross, Franklin, III
Mostellar, Henry Curtis, Jr.
Mote. William Eugene
Mueller, John George
Mullinax, Perry Franking
Munies, Richard Earl
Murphy, Robert Edward
Myers, Duane W.
Needham, George Richard
Nelson, Richard Copeland
Nelson, Ronald Prescott
Nesbit, Charles Lovette
Nesslinger, Ralph O.
Nial, Thomas Louis
Nichols, Francis Alexander
Nichols, John Livingston
Nidermaier, Joe M.
Noel, William Lee
Norton, Malcolm Dudley
Norwood, Olin Watson, Jr.
Nunn, Roland Cicero
deObarrio, Gabriel R.
O'Donovan, Denis Leo
Oglukian, Raymond Levan
Oliver, Frank Vern
Oliver, Manton M.
Olivera, Hugo Valentin
O'Manskey, Samuel Isaac
Ormand, William Leon
Osborn, Robert Emerson
Osborne, William Norris
O'Steen, Arthur Marion
Owen, Edsel M.
Owens, Dean Paul
Owens, Edgar Hart
Ozment, Jere Marr
Palmer, Kenneth F.
Palmore, Erdman Ballagh
Parish, James Donald
Parker, Leonard Alden
Parks, Russell Austin
Parrish, Diuguid Beirne
Partain, Eugene Gartly
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Paul, Albert Benner
Peacock, James Daniel
Pearson, Alden Bryan, Jr,
Pegram, Paul Ogburn, Jr.
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Phillips, Carroll Preston
Piephoff, Zachary Taylor
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Pitman, John Mathews
Plimpton, Hollis Winslow, Jr.

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Darlington, $\mathrm{S} . \mathrm{C}$.
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Miami, Fla.
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Palatka, Fla.
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Havana, Cuba
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Glassbore, N. J.
Bronx, N. Y.
Williamsburg, Va
Miami Beach, Fla.

Pollack, Jack Robert
Pollock, James H.
Pomeroy, Charles Edward
Poss, Henry Maurice
Powell, William Columbus, Jr.
Price, Rubert McCollum, Jr.
Price, William Knox, Jr.
Radner, Sanford R.
Rankin, Frank L., Jr.
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Raywid, Alan
Read, Robert Mendel
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Reed, Myron George, II
Reeves, Ernest Gene
Renuart, Adhemar William
Ressler, Duane Wilbur
Reyle, Bruce William
Reynolds. Joseph Charles
Richardson, Roy Gerald
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Ring, Clay Vance, Jr
Rink, Robert Flude
Ritchie, Lee Robert
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Rogers, Robert Taylor
Rose, Louis Langford
Rogers, William Henry
Ronca, Paul Crane
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Rucker, Richard Carlton
Runyan, Thorne Leslie
Rusinow, Dennison Ivan
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St. Claire, Charles Wade
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Sarazen, John C.
Sasser, Louis L.
Savitt, Herbert $S$.
Scalise, Vincent J.
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Scott, Samuel Gray
Scott, William Chadwick
Shapiro, Lewis
Sharpe, Keith Yount
Shumaker, Samuel Robert
Shuster, Charles Willard
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Simpson, Ronald Vincent
Skinner, Roland LeRoy, Jr.
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Smith, Harry Hutchinson
Smith, William Lawrence
Smullen, John James, Jr.
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Snyder, Robert C
Sorrell, William Richard
Sovick, George Penn
Spangler, Ronald Tice, Jr.
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Speziale, Joseph Louis
Stauts, Lester John, Jr.
Stottlar, James Francis
Stradley, Walter McNutt
Strauss, Saul
Stribling, Charles S.
Stull, Clark Deakyne, Jr.
Sullivan, Tames Howell
Sumara, Charles K. G.
Swanson, Edward Nathaniel

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Chattanooga, Tenn.
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Chattanooga, Tenn.
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Portsmouth, Va.
Bristol, Tenn.
Catskill, N. Y.
St. Petersburg, Fla.
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White Plains, N.Y.
Greenville, N. C.
Welch, W. Va.
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White Plains, N. Y.
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Lander, Wyo.
Kannapolis, N. C.
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Washington, D. C
Glen Rock, N. J.
Trenton, N. J.
Rock Hill, S. C.
Bridgeport, Conn.
Orangeburg, S. C.
Daytona Beach, Fla.
Bristol, Conn.
Dayton, Ohio
Durhan, N. C.
Durham, N. C.
Salisbury. Md.
Rutland, Vt.
Hickory, N. C.
Winston-Salem, N. C
Dunn, N. C.
Charleston, W. Va.
Ft. Lauderdale, Fla.
Paris, Ky.
Terrington, Conn.
Sharon Hill, Pa.
Peekskill, N. Y.
Excelsior, W. Va.
Brooklyn, N. Y.
Durham, N. C.
Ridley Park. Pa.
Columbus. Ga.
Durham, N. C.
Pilot Mountain, N. C.

Swofford, Thomas Hoyle, Jr.
Tagert, Kussell Hayes, Jr.
Tamis, Robert Howard
Taylor, Walter Herman, Jr.
Terpenning, George Cramer
Terrell, Robert Lewis
Thomas, Richard Frank, Jr.
Thomas, Royce Phelps
Thomas, Theodore Hubert
Toms, M. Frederick, Jr.
Trevvett, William Stuart
Tsangaris, Neofytos Theodore
Tucker, Perry Alan
Tuthill, David Foster
Tymosko, Donald Michael
I an Alstyne, James Linton
van Camp, David
$V$ an Camp, Stephen
$\backslash$ an Horn, William Lewis
Vaughan, Joseph Lynwood
Vaughn, Howard Amole
Vilas, John M.
Vincent, Roger Vollmer, Jr.
Wagner, Kobert Charles
Wamsley, Jack Lewis
Ward, William Milton
Warren, Harold Flack
Watkins, Charles Eugene, Jr.
Watson, David Earl
Webb, Frank Maury
Webster, John Neil
Weidlich, William Robert
Weidman, Frank Cross
Weimann, Robert Bruce
Weiss, James Owen
Weldon, Robert Walter
Weldon, Tom Chester
$W$ ells, Allison Deans
Wetmore, William Stratton
Whanger, Alan Duane
White, Edgar Farrell
Whitescarver, James Field, Jr.
Widenhouse, Ernest Cornelius, Jr.
Widner, Ralph Randolph
Wiita, Robert Matthew
Wild, Glen Amos
Williams, Charles Ayres, Jr.
Williams, Earl LeRoy
Williams, John Charles
Williams, John Wesley
Williams, Robert S.
Wills, Bruce Baxter, Jr.
Wilson, Charles Howe
Wilson, Dwight Remington, Jr.
Windom, Robert Emerson
Withers, Christopher
Witter, Robert Lamotte
Wood, Roy Stanley
Wood, Whitehill Thompson
Worthey, Eugene Burton
W’right, Bill Ellison
leates, Clarence Owen
Yergey, David Arthur
Young, Alvin Martin
Young, Hugh Claude
Zavertnik, Otis Vernon
Zelter, A. Richard, Jr.
Zimmerman, James Lawrence

Greensboro, N. C.
Greensboro, N. C.
New York, N.Y.
Pelzer, S. C.
New Rochelle, N. Y.
East Quoque, L. I., N. Y.
Winston-Salem, N. C.
Jacksonville, Fla.
Nelsonville, Ohio
Hendersonville, N. C.
Richmond, Va .
Tarpon Springs, Fla.
Wadesboro, N. C.
Pittsburgh, Pa.
Seymour, Conn.
Irvington-on-Hudson, N. Y.
Pittsburgh, Pa.
Southern Pines, N. C.
Uniontown, Pa.
Durham, N. C.
High Point, N. C.
Tenafly, N. J.
Kenosha, Wis.
Irvington, N. J.
Tulsa, Okla.
Bristol, Tenn.
Merchantville, N. J.
Pelzer, S. C.
Okmulgee, Okla.
Lake Wales, Fla.
Statesville, N. C.
North Plainfield, N. J.
Winchester, Mass.
Haddon Heights, N. J.
Memphis, Tenn.
Meriden, Conn.
Durham, N. C.
Wilson, N. C.
New Rochelle, N. Y.
Cleveland, Ohio
Concord, N. C.
Baltimore, Md.
Greensboro, N. C.
Camp Lejeune, N. C.
Monessen, Pa .
Pittsburgh, Pa.
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Jacksonville, Fla.
Raleigh, N. C.
Flint, Mich.
Selma, N. C.
Erwin, Tenn.
Rochester, N. Y.
Mount Vernon, N. Y.
St. Petersburg, Fla.
Port Washington, N. Y.
Durham, N. C.
Jacksonville, Fla.
Annapolis, Md.
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Norfolk, Va.
Orlando, Fla.
Trenton, N. J.
Charlotte, N. .C.
Englewood, N. J.
New York, N. Y.
Durham, N. C.

Adams, Morgan Rudolph
Adams, Nelson Falls
Adcock, Louis Henry
Adkins, Eli Richard
Ahern, Edward Francis, Jr.
Allen, James Edward
Allen, Joe Land
Allen, Louis Eugene

Louisville, Ky.
Charlotte, N. C.
Durham, N. C.
Pony, Mont.
Worcester, Mass.
Akron, Ohio
Burlington, N. C.
Greensboro, N. C.

Allen, Richard Charles
Anderson, Rohert
Armstrong, Pete Rohertson
Ayers, John Clifford
Bain, David Edward
Bain, Willis Rohinson
Baird, Bruce K.
Baldwin, William Lee
Bane, Allan
Baroff, Philip
Barrett, John A., Jr.
Bates, Earl Kenneth, Jr.
Batten, John E.
Beal, Lander Lowell
Beck, Wade Hampton, Jr.
Beck, William Harvey
Bedell, Harold Edward
Benfer, Norman A.
Bennett, Daniel Ross
Bensinger, Robert Guy
Bergeron, William Lawrence
Best, John Hardin
Biddison, Mark
Bingham, Kenneth Ronald
Bisselle, Rohert Ashford
Blackhurn, John O.
Blair, Richard Mitchell
Blanchard, Ralph William
Bland, Bruce Francis
Blaylock, Daniel Wehster, II
Bliss, George Yemens
Bloise, Jose Armando
Bohhitt, Joseph Irvin
Boshinski, Edwin Ernest
Bourland, William Lee
Bovaird, George C.
Bowman, Lawrence Colin
Boyce, Rohert Richard R.
Boyd, Frederick Daniel
Brackney, William Austin
Branch, Bohhy Caldwell
Bray. Henry Woodall, Jr.
Brazis, Michael Douglas
Brennen, Rohert Thomas
Briggs, James Ethelbert
Bright, James Golden
Brinson. Walter Jack
Britt, Bill Coleman
Brock, Aaron Joseph
Brooks, Sidney Barclay
Brookshire. Samuel James
Brown, James Madison
Brown, John C.
Brown, Ralph Josiah
Buchanan, John Creighton
Bullock, Henry Lehmon, Jr.
Burk, Robert Stuart
Burke, Francis J.. Jr
Burleson, Rohert McClay
Bush. Rohert Kenneth
Bushnell, George Dewey
Busken, Paul W.
Byerly, Charles Tate, Jr
Cahill, John Edward, Jr.
Cahow, Clark R.
Calaway, Bill Edward
Caldwell, Daniel Huffman
Calloway, Vern Daniel, Jr.
Camphell, John Robert
Camphell, Raymond Harry
Camphell. Rohert Duncan
Cannon, Philip H., Jr.
Carloss, Frank Ingalls
Carswell, Abel Paul, Jr.
Carter, James E.
Carter, Luther Jordan
Cavanough, Edward Michael
Celley, Alhert Francis
Chamherlin, Frank Harry

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Lynn, Mass.
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Paw Creek, N. C.
Miami, Fla.
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Salishury. N. C.
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Ben Hill, Ga.
Boston, Mass.
Elmhurst. L. .I., N. Y.
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Rutherford College, N. C
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Blytheville, Ark.
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Dorchester, Mass.
Malverne, N. Y.
Pelham, N. Y.
Bridgeville, Del
Salem, Ohio
Durham, N. C.
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Chambers, Jack Horne
Chambers. Robert Tillman
Cheek, Leon Theodore, III
Christakos, Arthur Chris
Christy, John Holmes, Jr.
Clark, La Frederick Russell
Clark, Seymour Garland, Jr.
Clarke, Donnelly Royce
Claughton, Edward Napoleon, Jr.
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Coggin, John Rod, Jr.
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Conaway, Jack Russell
Conner, John Cecil
Cook, Robert Darrow
Cooke, Dennis Hargrove
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Corn, Donn Edward
Corrigan, Eugene Francis
Costis, Gus Thomas
Crigger, Harry George
Crigler. Benner Bittinger
Crimmins, Frank Joseph
Cromartie, Martin Luther
Croy, Walter Harley
Cunningham, Owen Kenneth
Cuyler, Robert Duncan
Dailey, Henry Elwood, Jr.
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Davies, Pcte James
Dawson, John Burnette, Jr.
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DeLaughter, George D., Jr.
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Dickens, Wade Hampton, Jr.
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Douglas, Willian Forber, Jr.
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Drummond. Heyward Levin
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Fdwards. William B.
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Farno. Glenn Anderson
Farquhar. Clyde Randolph
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rill, Harold Eugene
Gitlin, Leon S.
Glazcr, Jack Henry
Glazier, Leland Cole
Clenn, Irwin
Glover, Robert Keith
Coodwin. Donald Coolidge
fordon, Sam
rossett, Charles Robert
Goswick, Claude Benjamin
Grace, John Vincent
Craham, Franklin Clarence
「ray, Frank Eugene
Greenberg, Milton
Greenberger, Stephen Albert

Clothier, W. Va.
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Miani, Fla.
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Andrews, N. C.
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Locust Valley, I. I., N. Y
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New Orleans, La.
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Scranton, Pa.
Roxbury. Mass.
Passaic, N. J.
Bolt, W. Va.
Akron, Ohio
Evansville. Ind.
Trenton, N. J.
Jacksonville, Fla.
Chicago, Ill.
Paterson, N. J.
Petersburg, Va.
Purlington, N. C.
Bailey, N. C.
Durham, N. C.
Asheville, N. C.
Whitehaven, Tenn.
Durham, N. C.
St. Albans, N. Y.
Oaklyn, N. J.
Cranston, R. I
Danville, Va.
Morris Plains, N. J.

Greene, Albert James
Greene, Fred McOwen, Jr.
Griffin, Charles Wesley
Grisso, John Kennedy
Grossnickle, William Foster
Hale, Joseph Mack
Haim, Liam
Hackney, Ben Hall, Jr.
Hackney, Edwin Atwater
Hall, Leslie Marshall, Jr.
Haınn, Kyle Edward
Hanson, Elmer David
llarman, Alonzo Lincoln
Harris, Elisha C.
Harris, John Balle
Harris. Thomas Burrill
Harris, William Daniel
Harrison, Richard P.
Harvey, Sam L.
Hatley, Jimmy Worth
Hayes, Kendall Preston
Hensel, Richard H. S.
Hermance, Donald Lewis
Herrero, Miguel Enrique
Herron, John
Hibbitts, Josiah Benjamin
High, Sherrill Rae
Hill. Hoyt Gray
Hiller, Karl Heinz
Hodgson. Richard Holmes
Hodgson, Thomas Salkald
Hoey, Franklin James
Hogg, William James
Holland. Darrell Massey
Fekas, Paul William
Ferguson, Cortez Wright, Jr.
Ferres, Walter Dean
Few, John Francis
Fick, William George, Jr.
Fisher, Albert Fleet
Fisher, Charles Avery
Fisher, James Edwin
Fisher, John Joseph
Fisher, Robert Lee
Fisher, William David
Fleming, Ralph Lang
Foster, Zaro Elton
Friedlund, John Edwin
Frischmann, Charles Peter
Fry, John Sedgwick
Fulweiler, Robert Edward
Galifianakis, Nick
Gallagher, Jerold Gray
Gardiner, Theodore David
Gaskins, Robert James
George. Harris James
G'bhs, Raeford Frank
Gihson, John D. S.
Holvfield. William Gilbert, Jr.
Hoshall, Lee David
Howell, Ernest Lee
Hubbard. Edward Earl
Hubbs, Richard E.
Huber, Donald Simon
Hudgins, Walter Edward
Hudmon. I. Stanton
Ifudson, Isham Barney
Huggins, Theodore Pollard
Hunt, Lawrence Ellerhe
Hunter, Eugene Griggs, Jr.
Huntsberry, Charles Robert
Hutson, Edward Douglas
Ingram, George Stephen
Ira. Gordon Henry, Jr.
[rwin, Dwight M.
Irwin, William Paul
Isley, Hugh G.
Tackson, Benjamin Taylor
Jacohsen, Magne Andre, Jr.

Forest Hills, L. I., N. Y.
Philadelphia, Pa.
Greensboro, N. C.
Alexandria, Va.
Nutley, N. J.
Windsor, N. C.
Yonkers, N. Y.
Lucama, N. C.
Charlotte, N. C.
Cradock, Va.
West Palm Beach, Fla.
Massillon, Ohio
Bluefield, W. Va.
Durham, N. C.
Albemarle, N. C.
Charlotte, N. C.
Charlotte, N. C.
Norfolk, Va.
Jacksonville, Fla.
Albemarle, N. C.
Park Ridge, Ill.
Jersey City, N. J.
Nashua. N. H.
Hato Rey, Puerto Rico
Saint Petersburg, Fla.
Nashville, Tenn
Durham, N. C.
Bowling Green, Ky.
Berlin, Germany
Raleigh, N. C.
Bronxville, N. Y.
Wilmington, Del.
Rutherford, N. J.
Raleigh, N. C.
Hampton, Va.
Greensboro, N. C.
Ridgewood, N. J.
Greensboro, N. C.
Passaic, N. J.
Fairmont, N. C.
Canton, N. C.
Durham, N. C
Prospectville, Pa.
Grosse Pointe, Mich.
Roxboro, N. C
Portsmouth, Va.
Harmony, N. C.
Chicago, Ill.
Forest Hills, L. I., N. Y.
Philadelphia, Pa.
Columbia, Pa.
Durham, N. C.
Albertson Downs, L. I., N. Y.
Alfred, N. Y.
New Bern, N. C.
Townson, Md.
Asheville. N. C.
Chevy Chase, Md.
Roanoke, Va.
Baltimore. Md.
Durham, N. C.
Stedman, N. C.
Bradley Beach, N. J.
High Point. N. C.
Danville, Va.
Jacksonville, Fla.
Andrews, N. C.
Danville, Va.
Pleasant Garden, N. C.
Kingsport, Tenn.
Winchester, Va.
Miami, Fla.
Jacksonville, Fla.
Jacksonville, Fla.
Charlotte. N. C.
Pittsburgh. Pa.
Raleigh, N. C.
Jacksonville, Fla.
Plainfield, N. J.

James, Carl Clifton
Johnson, Eric Herbert, Jr.
Johnson, Harry Wallace, Jr.
Johnson, Lee
Johnson, Peter Paul
Johnston, Cyrus Conrad
Jones, Charles Alhert
Jones, Charles Louis
Jones, Douglas Johnson
Jones, Harvey C.
Jones, John Oscar
Jones, Rohert Quincey
Jurew, John Constantine, Jr.
Karl, Lawrence, Jr.
Katzenmeyer, William Gilbert
Kay, Toombs, Jr.
Kayler, Ralph Earl
Keffer, Charlie
Kelley, Kenneth C., Jr.
Kelly, Walter Richard, Jr.
Kenion, Eugene Grant
Kennard, Francis M., Jr.
Kennedy, James Arthur
Kersey, James Stuart
Keye, Paul Failoa
King, Robert David
King, William Payne
Kirby, Jack Oliver
Kirchofer, Roger Beeson
Kirsh, Marvin
Kistler, David Reeves
Kistler, William Harvey
Klees, Rohert E.
Klein, Lewis Philip, Jr.
Knaepen, Henry Joseph
Knotts, Don Morton
Koestline, Charles Norman
Kyle, Harvey Lewis
Landau, Edward Jay
Landon, Horace Gordon
Landrum, Clinton Terrell, Jr.
Lane, Benjamin Forrest
Lang, William Steve, Jr.
Lanning, Jeremy Cushman
Larson Paul Ernest
Lawter, Gene Lamar
Lee, James Edward
Lee, John Marshall, Jr.
Lee, Raymond William, Jr.
Lee, Robert Emil, III
Le Gore, Norman Chester
Lewis, Rohert Dohbins
Lindsey, John Morton
Loehr, John Lyle
Loftin, Horace Greeley
Long, Charles Ahner, Jr.
Lounshury, Richard Earl
Lowe, Gentry Hearde
Lucas, Charles Fred
Lugenbeel, Archis G., Jr.
Lynch, Hal Lancaster, Jr.
McCarthy, William Raymond
McConnell, Elliott Bonnell, Jr.
McCraw, Ray Clifton
McDonald, Robert Kyle
McDougald, Robert Eubanks
McFadden, Robert Lawrence
McGranaham, Fred Nelson
McGranaham, William Scott, Jr.
McKay, James Alexander, Jr.
McLaulin, Johnnie C., Jr.
McLennan, Louis Watson
McLeod, Robert Franklin
McMahon, James Gillman, Jr.
McMaster, Fitz-John Creighton
Mahry, Henry Filmore
MacFarlane, John Granger
Machek, Andrew
Marjenhoff, August John

Raleigh, N. C
Chicago, Ill.
Weldon, N. C.
Weldon, N. C.
Cranford, N. J.
Mooresville, N. C.
Charlotte, N. C.
Durham, N. C.
Southport, N. C.
Baltimore, Md.
Saluda, S. C.
Charleston, W. Va.
Bloomfield, N. J.
Ford City, Pa.
Grand Rapids, Mich.
Royston, Ga
Gastonia, N. C.
Philadelphia, Pa.
Sharpsville, Pa .
Greensboro, N. C.
Hillshoro, N. C.
Pittsburgh, Pa.
Durham, N. C.
Los Angeles, Calif.
Washington, D. C.
Memphis, Tenn.
Miami, Fla.
Raleigh, N. C
Clover, S. C.
Durham, N. C.
Creedmoor, N. C.
Tuckahoe, N. Y.
Philadelphia, Pa.
Ridgewood, N. J.
Albemarle, N. C.
Alhemarle, N. C.
Royal Oak, Mich
Mount Vernon, N. Y.
Eden, N. Y.
Palmyra, Pa.
Mullins, S. C.
Savannah, Ga
Clinton, N. C.
Emporium, Pa.
Inman, S. C.
Durham, N. C.
Walterboro, S. C.
Providence Forge, Va.
Durham, N. C.
Vineland, N. J.
Asheville, N. C
Montrose, N. Y.
Rochester, N. Y.
Beaufort, N. C.
Durham, N. C.
Seymour, Conn.
Portsmouth, Va.
Nashville, Tenn.
Durham, N. C.
Jacksonville, Fla.
Evansville, Ind.
Cleveland, Ohio
Glen Rock, N. J.
Gastonia, N. C.
Bayside, N. Y.
Rock Hill, S. C.
Durham, N. C.
Durham, N. $\dot{\text { D }}$ C.
Danville, Va.
Atlanta, Ga .
Southern Pines, N. C.
Wilmington, Del.
Winnsboro, S. C.
Greensboro, N. C.
Chevy Chase, Md
Durham, N. C.
Charleston, S. C.
Brooklyn, N. Y.

Martin, Richard Charles
Mastellar, Daryl Edwin
Mathers, Robert Wesley
Matheson, James Leonard
Mathis, Archie M., Jr.
Matlock, Jack F.
Mattox, Huit Everett, Jr
Mauney, Edgar Alonzo, Jr.
Mauney, William S.
Maxwell, John Wallace
Mebane, Giles Yancey
Melton, Robert Allen
Meyer, Gerhard H.
Millard, Robert Frederick
Miller, Jack Upshaw
Miller, Neal Donald
Milstead, William M.
Mitchell, Fred L.
Mitchell, William Edward
Moore, Burt Hitchcock
Moore, Elijah Francis, Jr.
Moore, William Travis
Morgan, Thomas Edward, Jr.
Morris, Thomas Wendell
Moser, Daniel Boone
Moser, William Reynolds
Mougey, Paul Howard
Mounie, John Robert
Mundy, Elbert Johnson, Jr.
Murray, John Poole
Nabors, James Joseph
Nania, Frank
Neal, Charles Bodine, III
Nicholson, James Lloyd, Jr.
Nicholson, William Edward
Noggle, Burl Lee
Northam. Richard Alan
Novick, Marshall Irwin
Nunn, Delmas Coleman, Jr.
Ocker, John McClennan, Jr.
O'Neal, Benjamin Paschall
Orr, Harry Allen
Orzano, Joseph Ernest
Orzano, Randel M.
Oster, Howard Stanton, Jr.
Overdorff, James V.
Page, Jackie O'Neal
Pagter, Amos Townsend, Jr.
Parrish, Elbert A.
Pate, Robert Bruce
Patterson, Sam Polk
Paulsen, C. Richard
Pearce, Rcbert M.
Perkinson, Seth Jones, Jr.
Peterson, Robert Taylor, Jr.
Pierce, William H.
Poole, Elliott Bruce
Powers, Noyes Tom
Prairie, Rober Lyle
Price, Charles Russell
Propst, Arnold M.
Pullen, Dale
Pullen, Irving Wendell
Purves, Richard Eugene
Putnam, John Graves
Pyle, Robert Henry
Query, Erwin Leavitte
Ramsaur, Edmund George
Ramsey, Robert W.
Ray, Herbert Howard
Reams, Charles Edward
Reep, Bryan Rufus
Regester, Robert T., Jr.
Renfrow, Leslie H.
Renfrow, Robert Perry
Reynolds, James Robert
Reynolds, Raymond Earl
Rhodes, Dean A
Ricca, Samuel Joseph

Asheboro, N. C
Miami, Fla.
Mount Gilead, N. C.
Rocky Mount, N. C.
Greensboro, N. C.
Bluefield, W. Va.
Lincolnton, N. C.
Maiden, N. C.
Bethesda, Md.
Raleigh, N. C
Wilmington, N. C.
Flushing, L. I., N. Y.
Bristol, Tenn.
Coral Gables, Fla.
Hummelstown, Pa.
Winston-Salem, N. C
Chattanooga, Tenn.
Lynbrook, N. Y.
Raleigh, N. C.
Macon, Ga.
Durham, N. C.
Jacksonville, Fla
Durham, N. C.
Gastonia, N. C.
Gastonia, N. C.
Chevy Chase, Md.
Petersburg, Va.
Jacksonville, Fla.
Camden, N. J.
Winfield, Ala
Middletown, N. Y.
Millville, N. J.
Raleigh, N. C
Winston-Salem, N. C.
Morganton, N. C.
Wilmington, Del.
Winchester, Va.
Atlanta, Ga.
Arlington, Va
Macon, Ga.
Greenville, S. C.
Baldwin, N. Y.
Baldwin, N. Y.
Ashland, W. Va.
Johnston, Pa.
Rockingham, N. C.
Washington, D. C.
Durham, N. C.
La Grange, N. C.
Memphis, Tenn.
Milwaukee, Wis.
Shelbyville, Ky.
Asheville, N. C.
Rutherford, Tenn.
Ashtabula, Ohio
Jamesburg, N. J.
Cumberland, Md.
Wilmor, Calif.
Summerville, S. C.
Maiden, N. C.
Miami, Fla.
Claremont, N. H.
Washington, D. C.
Buffalo, N. Y.
North Muskegon, Mich.
Charlotte, N. C.
Lincolnton, N. C.
Newport News, Va
Winston-Salem, N. C.
Toledo, Ohio
Raleigh, N. C.
Baltimore, Md.
Lucama, N. C.
High Point, N. C.
Clinton, N. C.
Penns Grove, N. J
Columbia, S. C.
Hammonton, N. J.

Rice, William E.
Rice, William Henry
Rickard, Robert Stanley
Rogers, William Plummer
Rose, Carl Preston
Roseberry, Philip Leon
Rosenberg, Dietrich F.
Rosenberg, Robert Harold
Ross, James Vincent
Ross, John Joseph
Rostad, Ole Magnus
Roth, Arnold I.
Ruedisueli, Jack Lance
Salomon, Ferdinand Lewis
Sands, Robert Norman
Schiffli, Nicholas William
Schwarz, Robert James
Seaton, Edwin Claude
Sells, Traylor Dixon, Jr.
Shackelford, Robert Glenn
Shankle, Jack Norman
Shapiro, Herbert Sanford
Shelley, George LeRoy
Sherrill, Frank C., III
Sherrill, Tobias A.
Shore, George Edward
Shuford, William Albert
Shull, Joseph Roger
Shulsinger, Joseph
Silkett, Robert Tillson
Simidian, Ara Vahan
Simmons, Bowen Eugene
Simmons, Roy Eugene
Sirois, Richard Albert
Skibsted, Wesley George
Slane, John Clark
Sledge, John Burton, Jr.
Sliker, Alan William
Slocumb, Marvin Benton
Slone, Harry Lee
Small, Robert Roscoe
Smith, Fred R.
Smith, John Newton, Jr.
Smith, Micah J
Smith, Richard Bowden
Smith, Sherwood D.
Smith, Sterling Lee
Smith, William Monroe
Smitherman, Frank Byron, Jr.
Snively, Lawrence W., Jr.
Snow, John Wesley
Solomon, James Russell
Souchak, Michael
Spann, Guy Stewart
Spillman, Harry Law rence
Spiropulos, Spiro
Spivey, Fenner N.
Stamey, Ben Franklin
Stapleford. Robert Wayne
Stapleton. William Don
Starnes, Paul Boger
Starnes, Phillip Jackson
Steagall, Robert Worth
Sterling, Lehman Newell
Steur, Arthur Henry
Stokes, Frank Stewart, Jr.
Strader, R. Harold
Strasser, Richard I.
Street, John Scott
Stride, Richard Joseph
Stringer, Arthur John, Jr.
Strott, John William
Sublett, Henry Lee, Jr.
Sullivan, Edward James
Suttle, Michael, Jr.
Sutton, Loyd Erskine
Swain, William Alexander, III
Sykes, John Howard
Tager, Henry Clay

Durham, N. C.
Macon, Ga.
East Orange, N. J.
Charleston, S. C.
Rocky Mount, N. C
York, Pa.
Binghamton, N. Y.
Newton Centre, Mass.
Easton, Pa .
Jacksonville, Fla.
Gsovik, Norway
Birmingham, Ala.
Detroit, Mich.
Morristown, N. J.
New York, N. Y
Clewiston, Fla.
Chatham, N. J.
Manitowoc, Wis
Orange, Texas
High Point, N. C.
Cornelius, N. C.
Augusta, Ga.
Bristol, Conn.
Cornelius, N. C.
Greensboro, N. C.
Winston-Salem, N. C.
Thonasville, N. C
Bridgeport, Conn.
Springfield Gardens, N. Y.
Silver Spring, Md.
Forest Hills, 1., 1., N. Y.
Opp, Ala.
Pilot Mountain, N. C.
Portland, Me.
South Miami, Fla.
High Point, N. C.
Rich Square, N. C.
Sabina, Ohio
Macon, Ga.
Roanoke, Va.
Morganton, N. C.
Lynn, Mass.
Wilmington, N. C.
Clover, S. C.
Durham, N. C.
Durham, N. C.
Winston-Salem, N. C.
Lenoir, N. C.
Winston-Salem, N. C.
Pittsburgh, Pa .
Gainesville, Fla.
Fort Wayne, Ind.
Berwick, Pa.
Plant City. Fla.
Charlotte, N. C
Jamaica, N. Y.
Louisburg, N. C.
Lawndale, N. C.
Durham, N. C.
Spencer, N. C.
Charlotte, N. C.
Charlotte, N. C.
Charlotte, N. C.
Newtown Square, Pa.
Miami, Fla.
Portsmouth, Va.
Reidsville, N. C.
Chillicothe, Ohio
Saco, Maine
Mountain Lakes, N. J.
Baltimore, Md.
Danville, Va.
Riverside, N. J.
Newport News, Va.
Monroe, N. C.
Asheville, N. C
Burlington, N. C.
Durham, N. C.

Tapley, Johu Mark
Taylor, Crecd Banc, Jr.
Taylor, James Irvin, Jr.
Taylor, Kenneth Moody
Ternosky, Carl
Terry, Isaac Holt
Thigpen, Richard Elton, Jr.
Thorras, Richard L.
Thomas, Robert Charles
Tickle, Dewey Reid
Tingen, Clarence Aubrey
Tippy, Harold G.
Toms, Edgar Shelton, Jr.
Toms, George Newhy
Townsend, James J.
Tucker, Donald Wood
Tulenko, Thomas Stcve
Tully, William Franklin
Turner, Malcolm E .
Tyson, George Hart
Tyhout, Frederick Alton
Inderwood, George Dewey, Jr.
l'nderwood, Jack Lawrence
Inderwood, Richard
U'pchurch, Joseph Daniel
Van Der Beck, Karl
Van Skike, Rohert Bruce, Jr.
leith, Frank Herman
Iiau, Louis John
Vigg ano, Dante
Wadlington, Walter James
Wagner, Andrew John
Wagoner. George Richard
Walker. Donald
Walrond, Alan Labert
Wamsley, Frank Singleton
Wanzer, Sidney Hovey
Ware, Henry Neill
Warmath. John Thomas, Jr.
Watts, William Logan
Weaver. Lucius Stacy, Ir
Webb, Richard Davis
Webster, Frank Morris
Wehster, Richard Carlton
Weekley, Augustine, Jr.
Weidman. John Charles
Welsh, John F.
Wheaton, Scott Rodgers
White, Frank Paul
White, Johnnie Robert
White, Julian Bernard
White, William F.
Whitney, James Lloyd
Wilder, Buna Joe
Wile, Homer Wayne
Wiles, Ben Miller
Williams, Martin George, Jr.
Williamson, Lamont Wells
Winters, Albert C., Jr.
Withers, W. Kenney
Witherspoon, Loy Hahn
Withrow, Pat Berry, III
Wittman, John Kenneth
Wolf, Charles Edward
Wolfe, Thomas Redwine, Jr.
Womble. William L.
Wood, William Clark
Wood, William Moncrief
W oodworth, John Kennedy
Yarnell, Richard Asa
Yevich. Eugene Edward
York, Scott R.
Young, Charles Denman
Young, James M.
Young, Robert Everett
Ziolkowski, Theodore J.

New Rochclle, N. Y.
Poplar 11ill, Va.
Tarboro, N. C.
Statesville, N, C.
Berwick, Pa.
Bahama, N. C.
(harlotte, N. C.
Wallingford, Conn
Little Neck, N. Y.
Burlington, N. C.
Durham, N. C.
Mountain Lakes, N. J.
Durham, N. C
Durham, N. C.
Jacksonville, Fla.
Goldsboro, N. C.
W ashington, D. C.
Charleston, W. V'a.
Atlanta, Ga.
Carrhoro, N. C.
Newcastle, Dcl.
Molland, I a.
Albany, N. I .
Waynesville, N. C.
Angier. N. C.
East Orange, N. J.
Bradenton, Fla.
Philadelphia, Pa.
New Orleans, La.
Panama, R. P'.
Biloxi, Miss.
Baltimore, Md.
Durham, N. C.
Wollaston, Mass.
Hollins, Va.
Tulsa, Okla.
Charlotte, N. C.
Falls Church, Va.
Greensboro, N. C.
l.ouisville, Ky.

Durham. N. C
Mamaroneck, N. Y'.
Durham, N. C
Rochester, N. Y.
Tampa, Fla.
Winchester, Mass.
Washington, D. C.
Stroudshurg, Pa.
Unadilla, N. Y.
Danville, Va
Archdale, N. C.
Merritt Island, Fla.
Parkersburg, W. Va.
Gainesville, Fla.
Petrolia, Pa.
Burlington, N. C.
Jacksonville, Fla.
Rocky Mount, N. C.
Williamsport, Pa.
Jacksonville, Fla.
Winston-Salem, N. C.
Charleston, W. Va.
New York, N. Y.
Houston, Texas
Albemarle, N. C.
Winter Haven, Fla.
Greenwich, Conn.
Jacksonville, Fla.
Erwin, N. C.
Charleston, S.C.
Rerwick, Pa .
Cleveland, Ohio
Charlotte, N. C.
Massillon, Ohio
Charleston, W. Va.
Montevallo, Ala.

Senior Class

Abbott, William Franklin, Jr.
Abe, Jack MacDonald
Alexander, Charles Thomas
Allen, Richard Milton
Allen, Robert Holcomb
Allin, James Lander, Jr.
Allred, Roger Howard
Ancrum, Thomas Douglas
Aycock, Ezra Kenneth
Ayers, Milton Edward
Baggs, Donald Thompson
Baker, F. Richard
Baptiste, Ronald Philip
Barden, Charles Stanford, Jr.
Barker, Charles Warwick
Barnard, Bruce Donald
Barnes, Donald B.
Barnes, Robert Lloyd
Barnes, Sidney Edwin
Barnes, Wallace Ray
Batchelor, William Mac
Baum, Edwin Forster
Baynes, James R.
Baynes, Walter Wright, Jr.
Beam, Joe Cephas
Bean, William Randall
Beaumont, Jacques D.
Bennett, David Gerrald
Bergstrom, Jack Willard
Bianchi, Richard Eugene
Bingaman, John W
Bird, Jack Harold
Blackmon, Stephen Kern
Blanton, Keith Gilbert
Blount, Gerald Rowden, Jr.
Boehling, William Anthony
Boggus, Van Buell
Borden, Windsor John
Borstell, Hans Joachim
Bowling, Lewis Lawson, Jr.
Boynton, John Gorham
Brandt, Leroy M.
Branham, John Thomas, Jt.
Brawley, James Otto, Jr.
Brewer, Charles Lindsey
Britt, Clyde Lee
Broderson, Robert Maurice
Brown, Clarence Fleetwood, Jr.
Brewn, Edward Brooking
Brcwn, Rollin L.
Bruce, Logan L.
Brumit, Horace Clarence
Bryant, Clyde Vernon
Burdick, Alan Terrill
Burdick, Wallace Thurston
Burns, Franklin Kent
Burrell, Eugene John, Jr.
Butner, Oliver Leo, Jr.
Byrd, Jack Laughridge
Cagle, Clarence Burder
Caldwell, Chester Abbott, Jr.
Callahan, Daniel John
Campbell, Lucian Paul
Capsalis, Aggie Manuel
Carpenter, Grady Sherdale
Carr, Frederick Lamont
Carroll, Harold William
Carson, Richard T.
Cathcart, Edward Reaves
Cato, Paul James
Chadwick, Harry Roberts, Jr.
Chambers, Thomas Hilary, Jr.
Cheek, James B.
Christner, Howard Hayes
Chritton, Ernest Fairfax, Jr.
Clardy. Will Jouette, Jr.
Clark, Robert W.

Salem, Mass.
Dayton, Ohio
Indianapolis, Ind.
Salisbury, Md
Baldwinsville, N. Y.
Lakeland, Fla
Durham, N. C
Camden, S. C.
Pinewood, S. C.
Bloomfield, N. J
St. John's, Newfoundland
Hendersonville, N. C.
Hong Kong, China
Asheville, N. C.
Lumberton, N. C
Cramerton, N. C.
Wilson, N. C.
Royersford, Pa.
Wilson, N. C.
Stewartstown, Pa.
Greenville, N. C.
Danville, Va.
Durham, N. C.
Winston-Salem, N. C.
Beaufort, N. C.
Durham, N. C.
Wellsville, Ohio
Charlotte, N. C.
Charleston, W. Va.
Guatemala City, C. A.
Reading, Pa .
Durham, N. C.
Durham, N. C.
Lakewood, Ohio
Arlington, Va.
Richmond, Va.
Norwalk, Calif.
Oswego, N. Y.
North Babylon, N. Y.
Durham, N. C.
Woodbridge, N. J.
Charleston, S. C.
Orlando, Fla.
Winston-Salem, N. C.
Durham, N. C.
Lumberton, N. C.
Durham, N. C.
Anderson, S. C.
Scranton, Pa.
Woodbridge, Va.
Fort Sam Houston, Tex.
Elizabethton, Tenn.
Raleigh, N. C.
New York, N. Y.
Englewood, N. J.
Winston-Salem, N. C.
Eustis, Fla.
Durham, N. C.
Marion, N. C.
Green's Creek, N. C.
Blytheville, Ark.
West Concord, Mass.
Wilmington, N. C.
Durham, N. C.
Concord, N. C.
Richmond, Va.
Hillsboro N.
Hillsboro, N. C.
Anderson, S. C.
Charlotte, N. C
Smyra, N. C.
Winston-Salem, N. C.
Durham, N. C.
Somerset, Pa .
Birmingham, Mich.
Forest Hills, L. I., N. Y.
Durham, N. C.

Clark, William Henry
Clary, Guy Willis
Cline, Albert Purcell, Jr.
Coady, James Malcolm
Cobetto, Jack Bernard
Coble, Russell Cooke
Colvin, John T.
Constantine, Tom M.
Conway, William Frederick
Cook, Clark Curtis
Cookerly, Thomas Bourne
Cooper, Charles Staples
Cooper, Joseph S.
Cope, William Warren
Copeland, Isaac Mathias, Jr.
Cox. John Tomlinson
Craddock, John Goodwin, Jr.
Craft, Thomas LeRoy
Craun, Dwight Marvin
Crevasse, Lamar Earle, Jr.
Criswell, Howard Donald, Jr.
Crook, James Ruthland, Jr.
Crowe, Charles Lawson
Dabbs, Thomas McBride
D'Alonzo, Albert Floyd
Dark, Robert Hanner
Davis, Arnoild Van Osdal
Davis, James Howell
Davis, James William
Davis, Robert Brandon, Jr.
Dayton, Charles Cary
Decosier, Linton Henry
DePass, Skottowe Wannamaker
DeVore, Robert Newton
Dickerson, John William
Dixon, James Lynnewood, Jr.
Doescher, Richard E.
Donovan, John Smith
Dorton, John Pete
Draughon, Donald Ray
Driver, Tom
Duncan, Lewis William
Duncan, Robert Anderson
Dunham, Donnell Paul
Dunson. Sanford Allen
Dye, Robert Eugene
Eason, Julian Kenneth
Eaves, George W., II
Eisenberg, Loyd E.
Elias, William Siler
Elliott, Greer Woltz
Elliott, Stuart W.
Ellsworth, John C
Erickson, John Stuart
Eslick, Jack W.
Esposito, Robert Vincent
Fakkema, Robert Edward
Ferrell. Marshall Carr, Jr.
Floyd, Daniel Justin
Fogle, Richard D.
Folckemer. Clarence Edward
Foreman, Edwin Earl
Frady, Andrew H.
Freeland, James J.
Freeman, James Thomas
Friedman. Fred Joachim
Fry, Ray MacNairn
Frye, Jerry Lybrand
Furber, Edward Saxe
Futrell. James Louis
Gale, Glen Roy
Garceau, Arthur Joseph
Gardner, Samuel Watson, Jr.
Gaylord, Jackson Eldridge
Cessner, Lawrence Karst
Gibson. Tames Edward
Gibson, Robert Bruce
Gilmer. William Dryden
Glaze, John William, Jr.

Scarsdale, N. Y.
Gaffney, S. C
Canton, N. C.
Monument Beach, Mass.
Herminie, Pa .
Concord, N. C
Washington, D. C.
Racine, Wis
Uniontown, Pa.
Durham, N. C.
Birmingham, Mich.
Raleigh, N. C.
Camden, N. J
Mocksville, N. C
Norfolk, Va.
Mount Olive, N. C.
Charlotte, N. C
Betbel, N. C.
Portsmouth, Va.
Tampa, Fla.
Washington, D. C.
Winston-Salem, N. C
Durham, N. C.
Durham, N. C.
Philadelphia, Pa.
Siler City, N. C.
New Albany, Ind.
Matoaka, W. Va.
Durham, N. .C.
Newark, Del.
Plandome, N. Y.
Grosse Pointe, Mich.
Camden, S. C.
Ninety-Six, S. C
Danville, Va.
Kew Gardens, N. Y.
Attleboro, Mass.
Haddonfield, N. J.
Durham, N. C.
Durham, N. C.
Bristol, Tenn.
Durham, N. C.
Asheville, N. C.
Salisbury, N. C.
Summerville, Ga.
Keystone, W. Va.
Durham, N. C.
Henderson, N. C.
Philadelphia, Pa .
Asheville, N. C.
Durham, N. C.
Charlotte, N. C.
New Orleans, La
Bay Shore, L. I., N. Y.
Fayetteville, Tenn.
East Orange, N. J.
Durham, N. C.
Petersburg, Va.
Fairmont, N. C.
Durham, N. C.
York, Pa.
Durham, N. C.
Wilmington, N. C.
Durham, N. C.
Morrisville, N. C.
Durham, N. C.
Rabun Gap, Ga.
Durham, N. C.
St. Petersburg, Fla.
Greenville, N. C.
Mount Crohan, S. C.
South Hanover, Mass.
Charlotte, N. C.
Belhaven, N. C.
Plainfield, N. J.
Winston-Salem, N. C.
Winston-Salem, N. C.
Kingsport. Tenn.
Durham, N. C.

Glen11, Marvin Thomas
Glenn, Samuel Bailey, Jr.
Glover, Joseph Alexander
Goettel, Gerard Louis
Goodman, Arthur, Jr.
Goodwill, William F.
Gore, Tom Winfield
Gould, Kenneth George
Graham, Frederick Williain, Jr.
Gray, William James
Greco, John
Greenleaf, Thomas Raymond
Griffith, William Jackson, III
Gubbins, Clarence Paul
Gullett, George Harris, Jr.
Gumkowski, Thaddeus Raymond
Gwyn, Julius Johnston
Ilaas, William Howard
Hammer, William Harris
Hanıpton, William Robert
Hancock, Jonathan Howard
Hanes, Phillip F.
Harper, Clyde W allace
Harrill, James C.
Harris, Clinton Ross
Harrison. Nathaniel
Hauser, Robert Edward
Hawes, Raymond Burke
Hawkins, James Wendell
Hayes, Carlyle Bernard
Heiss, Howard Conrad
Heller, Jack H.
Helms, William K.
Herbin, Leonidas
Hibbitts. Harold Burns
Higgins, Fred Clay
Highsmith, Albert Wagstaff
Hipps, Herbert G.
Hofsommer, Armin Conrad
Hogan, Joseph Herbert
Holland, Claude Douglas
Hollar, Homer Cleveland
Holloway, Benjamin Dukc
Holzinger, George C.
Homan, Henry H.
House. Winfred Jackson
Howell, David Gist, Jr.
Hoyle, Alton Reid
Hubbard, Robert Carl
Huckabee, Robert Callaway
Hudson, John Grier
Huffines, Dewey Hobson
Hughes, Thomas Pinckney
Hull, James Frank, Jr.
Humphrey. Earl L., Jr.
Hyatt, Edward
Insch, Paul H.
Jrvin, Glenn F.
Jennings, Clark William, Jr.
Teske, John William. Jr.
Johnson, Cecil Rustin
Tohnson, Charles B.
Johnson, Ragnar Edwin
Jones, Charles David
Jones, Charles Ray
Jones, Darrell Shaw, Jr.
Iones, Howard Bird
Jones, Loring Shaffer, Jr.
Jordan, Ben Everett, Jr.
Touannet. Francis L., Jr.
Kellam, Floyd Eaton, Jr.
Kellam, Frank Wallace
Kenaston, Thomas Corwin, Jr.
Kingery, Robert Elliott
Kinnev, Donald S.
Kirk, Robert Dixon. Jr.
Knipmever, Arlie Charles
Knotts, Benjamin Franklin, Jr.
Knotts, James Terrell

Durham, N. C.
Winston-Salem, N. C.
Wilmington, N. C.
New Rochelle, N. Y.
Charlotte, N. C.
Miami Shores, Fla.
Kaleyville, Ala.
Tampa, Fla.
Charleston, W. Va.
Mount Hope, W. Va.
Woodmere, N. Y.
Dowingtown, Pa.
Fort Thomas, Ky.
Elgin, Ill.
Fayette, Ala.
Branford, Conn.
Reidsville, N. C.
Norwalk, Conn.
Buchanan, Va.
Winston-Salem, N. C.
Sebring, Fla.
Walkertown, N. C.
Gireer, S. C.
Gaffney, S. C.
Durham, N. C.
High Point, N. C.
High Point, N. C.
Northport, N. Y.
Nashville, Tenn.
Winston-Salem, N. C
Baltimore, Md.
Baltimore, Md.
Columbia, S. C.
Greensboro, N. C.
Pikeville, Ky.
Rome, Ga.
Durham, N. C.
Greensboro, N. C.
Webster Groves, Mo.
Durham. N. C.
Raleigh, N. C.
Yadkinville, N. C.
Durham, N. C.
Milford, Conn.
Lebanon, Pa .
Durham, N. C.
Mt. Sterling, Ky.
Asheville, N. C.
Lancaster, S. C.
Durham, N. C.
Spartanburg, S. C.
Reidsville, N. C.
Sumter, S. C.
Ft. Mill, S. C.
Sangerville, Me.
Asheville, N. C.
Tulsa, Okla.
Callahan, Fla.
Orlando, Fla.
Westfield, N. J.
Durham, N. C.
Portsmouth, Va.
Charleston, S. C.
Middeltown, Ohio
Greenwood, S. C.
Newark, Ohio
Clearwater, Fla.
Pittsburgh, Pa.
Saxapahaw, N. C.
Shaker Heights, Ohio
Princess Anne, Va.
Princess Anne, Va.
Cocoa, Fla.
White Plains, N. Y.
Winston-Salem, N. C.
Tupelo, Miss.
Bellflower, Mo.
Plant City, Fla.
Albemarle, N. C.

Krout, William A.
Lane, Remhrandt Peale, Jr.
Leake, Medford Mem
Leitner, Paul Revere
Levy, Foster LeRoy
Lewis, James Kelly
Lindsay, Carl Howard
Lineberger, Henry Otis, Jr.
Lively, Thomas Talmadge
Long, Claude Homer
Love, Thomas Anderson
Lucas, Rohert Theodore, Jr.
Lutz, William Austell
Lyle, Berton Edward
MacArthur, Neal P., Jr.
MacDonald, Weldon B.
Magaw, Malcolm O.
Mairs, Robert Louis
Markham, John Leslie
Martin, William Grinalds, Jr.
Martinelli, William Joseph
Marx, Paul Henry
Massey, William Everard, Jr.
Matton, Lawrence Case
Meier, Charles Donald
Meredith, Winfield Scott
Middleton. David John
Midgett, Peleg Dameron, III
Miller, Fred James
Miller, John Raymond
Miller, Robert W.
Miller, Ulrick Ray
Mitchell, George Stanley, Jr
Mitchell, Rohert Kell
Mitchell, William Hoyle
Moeller, Robert Henry, Jr.
Montgomery, John
Moore, Nelson R., Jr.
Moorhead, Sam R.
Mosier, Edward R.
Mousmoules, John
Mullinix, Howard E., Jr.
Myers, William C.
McAdams, John L.
McAllister, Douglas Howard
McCauley, Thomas H.
McColley, Charles S.
McCullen, Donald
IcFadden, Alexander B.
McGerity, Joseph Loehr
McGuire, Victor Virgil
McKittrick, Charles E.
McLendon, Preston Alexander
McMasters, Lewis L.
McNeer, Fred Arnold
Neal, Phil Hudson, Jr.
Neely, Edward Rex, Jr.
Nelson, John
Newcomb, William R.
Newhouse, Wilfred John
Newman, Robert Loyd
Nichol, Robert J.
Niemierzycki, Eugene John
Ninos, George S.
O'Leary, James Joseph
Ortolf, Karl George
Orzech. Edward George
Parks, Robert Louis
Parrish. Joseph A. G.
Parry, John Fowler
Past, Si Alexander, Jr.
Patton. Frank Caldwell
Peele, William Oscar, Jr.
Pereira, Woodrow Harrison
Perkinson, Carl Joseph
Perry, Thomas R.
Pfann, John Riclard
Pickett, William Harry
Pierce, Walter Morgan, Jr.

Covington, Ky.
Washington, D. C
Tupelo Miss.
Winnshoro, S. C.
Birmingham, Ala.
Mt. Holly, N. C.
Burlington, N. C.
Raleigh, N. C.
Atlanta, Ga .
Astatula, Fla.
Durham, N. C.
Shreveport, La
Shelby, N. C.
Tupelo, Miss.
Durham, N. C.
Haverhill, N. H.
Oregon, Ill.
Charleston, W. Va.
St. Petershurg, Fla.
Portsmouth, Va.
Covington, Va.
Atlanta, Ga
Charlotte, N. C.
High Point, N. C.
Evanston, Ill.
Jamestown, N. Y.
Warsaw, N. C.
Engelhard, N. C.
Burlington, N. C.
Wilson, N. C.
Mountain Lakes, N. J.
Salisbury, N. C.
Hilton Village, Va.
Cary, N. C.
Henderson, N. C.
Charlotte, N. C.
Miami, Fla.
Vanderbilt, Pa.
Anderson, S. C.
Uniontown, Pa.
Durham, N. C.
Round Bay, Md.
Williamston, N. C.
Rocky Mount, N. C.
Durham, N. C.
Durham, N. C.
Rock Hill, S. C.
Maplewood, N. J.
Rock Hill, S. C.
West Palm Beach, Fla.
Asheville, N. C.
Scarsdale, N. Y.
Washington, D. C.
St. Petersburg, Fla.
Durham, N. C.
Birmingham, Ala.
Atlanta, Ga.
Glen Ridge, N. J.
Huntington, W. Va.
Rutherford, N. J.
Leaksville, N. C.
St. Petersburg, Fla.
New Britain, Conn.
Wellsville, N. Y.
New Brunswick, N. J.
Bridgeton, N. J.
Shenandoah, Pa.
Sarasota, Fla.
Norfolk, Va.
Chattanooga. Tenn.
Chattanooga, Tenn.
Morganton, N. C.
Williamston, N. C.
New York, N. Y.
Asheville, N. C.
Shenandoah, Pa.
Mountain Lakes, N. J.
Durham, N. C.
Miami, Fla.

Plaster, Henry Garnett, Jr.
Polk, Ted P.
Porter, David G.
Porter, Robert Alton
Poston, Howard Henry, Jr.
Poteet, Jamie T.
Price, Richard Glenn, Jr.
Page, Talmadge D.
Ralph, Donald B.
Reardin, Charles Richard, Jr.
Reece, Oscar Edwin
Reed, Gordon A.
Reeves, Thomas Charles
Revel, John F.
Rhine, Robert E
Rhodes, Wade M., Jr.
Rice, Ernest Hillman
Rice, Milton B.
Richman, Harold Morton
Rider, Robert Vernon, Jr.
Rigshee, William Alton
Riordan, William C.
Robertson, William Badger
Robinson, Warren
Rose, Charles Alexander
Rose, Charles Kenneth, III
Rosenberg, Edward Robert
Rosenherg, Jac A.
Ross, Earl J.
Ross, Joseph Alderman
Rosso, Leonidas
Roush, Robert Ray
Rowan, William Kennan
Rowe, Herbert Graham
Rowland, William R.
Roy, Harold E.
Rucks, Percy O.
Rudisill, Jennings Bryan, Jr.
Ruffner, Van Natta, Jr.
Russell, William Arthur
Russell, William Harry
Sandefur, Earl W.
Scarhorough, David K.
Schick, Philip Martin
Schoonmaker, Alhert Stuart
Sharpe, Norman Thomas
Sharrett, Roger C.
Shaudys, Vincent K.
Shaw, John Daniel
Shelton, Thomas Austin
Shepherd, Douglas Nelson
Sherrill, John L.
Shevick, Jerry Joseph
Short, Emmett Fulton
Short, Raymond J., Jr.
Silver, Donald
Simpson, James Walter
Simpson, Norman Emmett
Sires, Leroy A., Jr.
Sisson, John Paddock
Slaney, James Dale
Smith, Alton Battle
Smith, Frank Calton
Smith, James Hadley
Smith, Joseph Colbert
Smith, Lee Amon
Smith, Lee C.
Smith, Melbourne LeRoy
Smith, Richard Stanley
Smith, Rohert E.
Smith, William Burford
Smith, William Dudley
Smyre, Melford Alton
Southern, J. Albert
Spach, Madison Stockton
Speake, Neal McCalla
Spearman, James H.
Spence, Talmage T.
Sprinkle, Benjamin F., III

Washington, D. C.
Hamlet, N. C
Lenoir, N. C.
Savannah, Ga.
Kingstree, S. C.
San Angelo, Texas
Greer, S. C.
Kockingham, N. C.
Durham, N. C.
Ridgewood, N. J.
Durham, N. C.
Durham, N. C.
Charleston, W. Va.
Charleston, S. C.
Durham, N. C.
Portsmouth, Va.
Durham, N. C.
Dyersburg, Tenn.
Newport News, Va.
Durham, N. C.
Durham, N. C.
Kingsville, Md.
Mt. Sterling, Ky.
Charlotte, N. C.
Wilmington, N. C.
Allentown, Pa
Binghamton, N . Y.
Memphis, Tenn.
Durham, N. C.
Wadeshoro, N. C.
Norfolk, Va.
Alderson, W. Va.
Des Moines, Ia.
Durham, N. C.
Sharon Hill, Pa.
Bridgeport, Conn.
Wilsons, Va.
Charlotte, N. C.
Durham, N. C.
Marshall, Va.
Rockingham, N. C.
Winston-Salem, N. C.
Philadelphia, Pa.
Cos Cob, Conn.
Walden, N. Y.
West Palm Beach, Fla.
Durham, N. C.
Newtown, Pa.
Sisterville, W. Va.
Bat Cave, N. C.
Huntington, W. Va.
Cornelius, N. C.
Toms Brook, Va.
Shellman, Ga.
Orange, N. J.
Asheville, N. C.
Charlotte, N. C.
Hinton, W. Va.
Charleston, S. C.
Pensacola, Fla.
York, Pa.
Raleigh, N. C.
Charlotte, N. C.
Mt. Airy, N. C.
Charlotte, N. C.
Norfolk, Va.
Raleigh, N. C.
Hamlet, N. C.
Pinehurst, N. C.
Monroe, N. C.
Tampa, Fla.
Martinsville, Va.
Creedmoor, N. C
Stokesdale, N. C
Winston-Salem, N. C.
Decatur, Ala.
Charlotte, N. C.
Raleigh, N. C.
Lenoir, N. C.

Stallings, Tolbert Lacy, Jr
Stanback, Fred J., Jr
Stark, Thomas Hall
Steel, John Schulz
Steele, James G.
Stephanz, Paul W
Stewart, Alva Theodore, Jr.
Stewman, John Alexander, III
Stipe, Robert Edwin
Stork, Carl Alexander
Stowers, Stuart Frank
Stratton, John Thomas
Strauch, C. Richard
Stvan, Edward
Sullivan, John L., Jr.
Sutton, Quincy Jackson, Jr.
Swalchick, George
Swann, Thomas Burnett
Sweeney, John R.
Swerlick, Robert
Tanaka, Shin
Tanc, Charles Beecher
Taylor, William James
Thomas, Pendleton Jones
Thompson, Edwin S.
Thompson, Harold Brett
Timothy, John T.
Traub, Henry Willis
Treleaven, Phillips Albert
Tribble, Willie Mack, Jr.
Tropman, John R.
Tu, Tien-Chung
Turbidy, John B
Tutan, Charles Benjamin
Tuttle, William Brock
Tyson, Joseph Blake
Tyson, Tommy
Urban, James A.
Van Zandt. Thomas Edward
Vaughan, William Norman, Jr.
Verner, John Victor
Vollmer, Donald M.
Waggoner, Oren Thomas
Wagner, Robert William
Walker, Paul C., Jr.
Wallingford, Thomas Ralph
Ward, James William
Ward, John A.
Ward, William Robert, Jr.
Ware, James G.
Wastler, T. Allen
Watson, Penn Thomas, Jr.
Way, Charles Burr
Webster, William Frank, Jr.
Welch, Fred P.
Welch, Gordon Kennedy
Westhall, James Edmund
Westlin, William F.
White, Beaman T.
White, Robert Carlton
Whitener, Fred William
Wilcox, Charles Hamilton
Wilkerson, Albert Ernest, J r.
Wilkin, Robert Campbell
Williams, Darrell Brown
Williams, Webster D.
Wilson, Plato Sudderth
Wilson, Robert L.
Winn, Richard Morrow, Jr.
Womack, William Graham
Woolard, Jordon Marion
Wooten, Shade Isler
Wynn, Robert S.
Yates, James Jefferson
Young, Loren D.
Young, Linville F
Youngue, Robert E., III
Yudell, Robert B.
Zahner, Robert

Louisburg, N. C
Salisbury, N. C.
Huntington, W. Va
Teaneck, N. J.
Chillicothe, Ohio
Jacksonville, Fla.
Keystone, W. Va.
Charlotte, N. C.
Easton, Pa .
Philadelphia, Pa.
Bluefield, W. Va.
Atlanta, Ga
Denton, Pa.
Bay Village, Ohio
Macon, Ga.
Warsaw, N. C.
Colver, Pa.
Winter Haven, Fla.
Scarsdale, N. Y
Philadelphia, Pa
Durham, N. C.
Bound Brook, N. J.
Durham, N. C.
Savannah, Ga.
Durham, N. C.
Hallsboro, N. C.
Birmingham, Ala.
Auburn, N. Y.
Oak Park, Ill.
Forsyth, Ga.
Durham, N. C.
Honan, China
Rome, Ga.
Miami, Fla.
Charlotte, N. C.
Charlotte, N. C.
Durham, N. C.
Miami, Fla
Miami, Fla
Wilson, N. C.
Danville, Va.
Pittsburgh, Pa.
Charlotte, N. C
Beaufort, S. C.
Winston-Salem, N. C.
Maysville, Ky.
Fayetteville, Tenn
Walkertown, N. C.
Lakeland, Fla.
Asheville, N. C.
Pensacola, Fla.
Wilson, N. C.
Waynesville, N. C.
Durham, N. C.
Madison, N. Y.
Coral Gables, Fla.
Lakewood, N. J.
Stratford, Conn.
Raleigh, N. C.
Greensboro, N. C.
Durham, N. C.
Atlanta, Ga .
Durham, N. C.
Steubenville, Ohio
Faith, N. C.
Durham, N. C.
Morganton, N. C.
Maplewood, N. J.
Clarksville, Tenn.
Sanford, N. C.
Richmond, Va.
Biltmore, N. C.
Ruston, La.
Durham, N. C.
Logan, W. Va.
Charlotte, N. C.
Laurinburg, N. C.
New Bern, N. C.
Highlands, N. C.

## Special Students

Aycock, William Glenn
Barnard, George William
Bartholomew, Robert Henry
Bodfish, Ralph E.
Brantley, Russell H.
Briggs, Marcellus Arnold, Jr.
Brock, Charles Lee
Buchanan, Charles E.
Cherry, Floyd B.
Dotson, Robert Lee
Early, Albert Terry
Fike, Edward Lake
Forrester, Eugene Norwood
Frenzel, Charles H.
Fuchs, Joseph Paul
Good, Norman Burke, Jr.
Greene, Samuel Royston, Jr.
Hammond, David P.
Harris, Jackson G.
Hill, Ralph F.
Jones, John Bartley, Jr.
Kesses, John Monson
Kirkpatrick, Thomas LeRoy, Jr.
Lindsey, Willis Calloway
McKinnon, Arnold Borden
Mahdavi, Kazem
Marshall, Ted Hall
Newman. Francis Wesley
Ogden, Archibald P.
Poulnot, Edwin H.
Ptaschinski, George Howard
Raebeck, Charles
Richert, Joe Charles, III
Rippy, Girard C., Jr.
Sands, George Lewis
Schacter, Jerome Miles
Sechler, Eugene Wright
Shugar, Gilbert Lee
Skipworth, George Brook
Smith, Robert Garland
Strother, Paul Nelson. Jr.
Switz, Alec Richard, Jr.
Vetter, John Stanley
Wells, William Easton, Jr.

Fremont, N. C.
Cramerton, N. C.
Durham, N. C.
Durham, N. C.
Zebulon, N. C.
Durham, N. C.
Asheville, N. C.
Durham, N. C.
Durham, N. C.
Carretta, W. Va.
Welch, W. Va.
Ahoskie, N. C.
Durham, N. C.
Hillsboro, N. C.
Durham, N. C.
Harrisonburg, Va.
Durham, N. C.
Cerro Gordo, N. C.
Stovall, S. C.
Hendersonville, N. C.
Dallas, Texas
Hamden, Conn.
Charlotte, N. C.
Washington, Ga.
Lumberton, N. C.
Meshed, Iran
Camden, S. C.
Leakesville, N. C.
Durham, N. C.
Charleston, S. C.
Newark, N. J.
Durham, N. C.
Raleigh, N. C.
Greenville, S. C.
Wilmington, Del.
Brooklyn, N. Y.
Durham, N. C.
Tarboro, N. C.
Columbus, Ga.
Pilot Mountain, N. C.
Stantonsburg, N. C.
Old Mystic, Conn.
Mount Olive, N. C.
St. Petersburg, Fla.

## COLLEGE OF ENGINEERING

## Sophomore Class

Anderson, Jack Cathey
Ballard, William Ed
Banthin, Clifford Richard
Barrett, Alfred James, Ir
Barry, Earnest Harry
Blackwell, LeRoy Erlinson, Jr.
Bolick, Harold D.
Bolton, Norman Arthur
Brice, Charles Carol
Brown, Walter Louis
Bryant, Kendred Luter, Jr.
Butt, S. Page
Carver, Marvin J., Jr.
${ }^{*}$ Collins, Howard William
Copes van Hasselt, Frederick W.
Cote, Daniel Narcisse
Cousins, Matthew E.
Daniel, Eugene Thomas
Davis, Hubert Vincent, Jr.
Detwiler, George D.
Dieffenbach, Otto Weaver, Jr.
Downey, Thomas Dickson
Edelblute, Thomas Hastings, Jr.
Eure, Thomas Duncan
Fishburne, Charles Carrol
Hail, Joe James, Jr.

Durham, N. C.
White Sulphur Springs, W.Va.
Bridgeport, Conn.
Washington, D. C.
Baltimore, Md.
Miami, Fla.
Burlington, N. C.
Cleveland, Ohio
Annapolis, Md.
Clarkton, N. C.
Roanoke Rapids, N. C.
Pleasantville, N. Y.
Rougemont, N. C.
Newark, Ohio
Montreal, Canada
Arlington, Va.
Enfield, N. C.
Durham, N. C.
Bloomfield Hills, Mich.
Collegeville, Pa .
Ruxton, Md.
Haddonfield, N. J.
Reynoldsville, Pa .
Beaufort, N. C.
Asheville, N. C.
Jacksonville, Fla.

[^55]Hall, John Woosley
Harvey, Frank H.
Hopper, Richard Francis
Houck, Frederic Ronald
Huffer, Nicholas Robinson
Hwang, Chester Fay
Johnson, Kenneth Raymond
Jones, Simeon Broadus, Jr.
Joyner, Edward Madison
Kennedy, Joe Everett, Jr.
Kennedy. Theodore Clifford
Korbel, Edward Joseph
Lee, Hugh (You)
Lloyd, Kenneth Earl Cooper
Makris, John Evangelus
Marlin, Glenn Adrian
Marple, Thomas Pankey
McMillan, Marcus
McMullan, Philip Sidney, Jr.
Merlin, Howard R.
Morton, Gerald Ketchun
Muriay, Malcolm Gibson, Jr.
Neal, Ralph John
Parrish, Edwin C.
Pavloff, George
Peake, Frank Ernell, Jr.
Perwein, Donald Gene
Petruchik, Peter
Pritchard, Robert Harrison, Jr.
Probert, Kenneth Denton
Proctor, Dan Moore
Pyle, Gordon D.
Reeves, Jerry Healand, III
Richards, Donald Boyd
Sally, John Lea
Scholley, George G.
Seeley, Ralph Marion
Shain, Edwin
Skerrett, Russell C.
Smith, Clifford Forrest
Stecker, Claude Earl
Stokes, William Alvis
Stone, John William
Strain, Delbert Earl
Taylor, James Charles
Tepe, Louis Charles
Thompson, Richard Franklin
Tollefsen, Robert
Tomlinson, Charles John
Tracey, Preston Joseph
Walker, Robert Johnstone
Westervelt, Sheldon
Whitley, Clyde Thomas
Winters, Ralph Moules, Jr.
Wise, Walter Robertson, J r.

High Point, N. C.
New York, N. Y.
Edenton, N. C.
Carlisle, Pa .
Toledo, Ohio
Changsha, China
Pensacola, Fla.
Hope Mills, N. C.
Richmond, Va.
Durham, N. C.
Front Royal, Va.
Douglaston, N. Y.
Canton, China
Durham, N. C.
Newark, Ohio
Durham, N. C.
Haddonfield, N. J.
Larchmont, N. I.
Edenton, N. C.
Brooklyn, N. Y.
Wilmington, N. C.
Ellwood City, Pa.
Durham, N. C.
Durham, N. C.
Munhall, Pa
Arlington, Va.
Sherman Oaks, Calif.
Franklin, N. J.
Washington. D. C.
Kingsville, Md.
Durham, N. C.
Interlaken, N. J.
Greenville, S. C.
Akron, Ohio
Durham, N. C.
Hudson, Ohio
Candor, N. Y.
Wilmington, N. C.
Western Springs, Ill.
Pinehurst, N. C.
Durham, N. C.
Durham, N. C.
Raleigh, N. C.
Aurora, Miss.
Washington, D. C.
Ridgefield, N. J.
Warren, Ohio
Staten Island, N. Y.
Malverne, N. Y.
Georgetown, Del.
Oriental. N. C.
Oradell, N. J.
Siler City, N. C.
White Plains, N. Y.
Durham, N. C.

## Junior Class

Autry, Elwin Benjamin
Bailey, Rayınond B.
Batten, Emmett LeGrey
Borst, Robert Meredith
Bowers, Gilmore
Bradbury, William Chase
Browne, Thomas Banks
Bukowitz. Marvin David
Bump, Stanley O.
Bush, Chandler M
Cannon, Kenneth F.
Carpenter, Harry Everett, Ir.
Cates, Walter Elmer
Chappell, William Henry
Chrisfield, Norman E.
Colenda, Herbert $F$.
Combs, Richard Leigh
Cook, Harold Jacob
Cooley, Irwin David
Corbett, Howard Roger, Jr.

Durham, N. C.
Bristol, Conn.
Durham, N. C.
Marbarth, Pa .
Winston-Salem, N. C.
Hopedale, Mass.
Cherryville, N. C.
Baltimore, Md.
Evansville, Ind.
Willoughby, Ohio
Washington, D. C.
Newton, N. C.
Durham, N. C.
Durham, N. C.
Gilbertsville, N. Y.
Morehead City, N. C.
Shaker Heights, Ohio
Floral Park, N. Y.
Savannah, Ga.
Wilmington, N. C.

Couleur, Edwin Melvin
Dellinger, David Carol
Denton, Robert Hurd, Jr.
Duttweiler, Charles N.
Eisaman, Jack Verner
Eisenbrandt, Fred Henry, Jr
Fenner, William Eaton
Fiegel, Harvey Edward
Fischell, Robert Ellentuch
Fox, Edgar Charles, Jr.
Frame, Norman R., Jr.
Friedman, Burnam Ivan
Fritz, Edmund William
Fullerton, John C., Jr.
Grove, Charles David
Hankins, William Edward, Jr.
Harward, Ernest David, Jr.
Hill, David William
Hooper, Ralph Leroy
James, William Edward
Johnson, Clarence Anthony, Jr.
Kastrinelis, Peter L.
Kenaston, Robert Allen
Komlosi, Eugene James
Landis, Harold Hamilton
Lanning, Richard L.
Lord, Melvin Henry, Jr.
Lowe, Elwyn H.
Lucas, Charles D.
Lucas, David Michael
Maass, William Harold
MacDonald, Alan Gray
Macht, Stuart Martin
Martin, John Daniel
McCall, Loyd Henry, Jr.
McConnell, Arthur Weir
McKelvie, Milton James
Melton, Nichols Joseph
Merritt, Glen Carl
Mickle, Andrew
Miller, Paul Joseph
Mitchell, Monroe Sellers
Murph, Daniel Shuford, Jr.
Newman, Edmund Henry
Newton, Walter C., J r.
Noell, Algernon Stanford, Jr.
deObarrio, Rodolfo
Otis, George Leslie, Jr.
Pearson, Eugene David
Phillips, Joe Richard
Premo, Don Allen
Priester, John David
Reinhart, Henry Paul
Ridout, Robert Charles
Rowe, Alan Laurie
Rusack, John David
Rymer, Jackson Sanford
Scollon, Donald Bool
Shaw, James Harvey
Shirk, Wesley Horning, Jr.
Smith, Edward Byron
Stevlingson, Wheldon F.
Tinsley, Charles Crawford
Townsend, Donald Hall
Treat, Charles William
Tronolone, Nick John, Jr.
Van Buren, Wesley Clyde
Van Dyck, Robert Laird
Verity, David Morley
Walker, Emanuel Jaynes
Waner, Paul Glee, Jr.
Watkins, John Kenneth, Jr.
Weber, Wheeler Davis
Westmoreland, William Vestal, Jr.
White, John Edward
White, Raymond Herbert, Jr.
Williams, Edgar Dickinson
Wilmer, William Blackiston
Winkler, Hubert Erwin

Glendale, Calif.
Cherryville, N. C.
Washington, D. C.
Ridgewood, N. Y.
Durham, N. C.
Baltimore, Md.
Rocky Mount, N. C.
Durham, N. C.
New York, N. Y.
Lynnbrook, N. Y.
New York, N. Y.
Baltimore, Md.
Arlington, Va.
Durham, N. C.
Alliance, Ohio
Christiansburg, Va
Carbondale, Ill.
Poland, Ohio
Asheville, N. C.
Charleston, W. Va.
Durham, N. C.
Framingham, Mass.
Cocoa, Fla.
Lorrain, Ohio
New Holland, Pa.
Trenton, N. J.
West Caldwell, N. J.
Jacksonville, Fla.
Matthews, N. C.
Matthews, N. C.
Glen Rock, N. J.
Greenwich, Conn.
Baltimore, Md.
Chatham, N. J.
Charlotte, N. C.
Birmingham, Ala.
Kings Mountain, N. C.
Durham, N. C.
Greensboro, N. C.
Winston-Salem, N. C.
Baltimore, Md.
Oreland, Pa.
Washington, D. C.
Irvington, N. J.
Durham, N. C.
Durham, N. C.
Panama, R. P.
Atlanta, Ga.
New York, N. Y.
Winston-Salem, N. C.
Durham, N. C.
Davenport, Iowa
Durham, N. C.
Pelham, N. Y.
Waterbury, Vt.
Catskill, N. Y.
Charlotte, N. C.
Barnesboro, Pa.
Baltimore, Md.
Philadelphia, Pa.
Haddonfield, N. J.
Austin, Texas
Norfolk, Va.
Wynnewood, Pa .
Port Huron, Mich.
Palisade, N. J.
Durham, N. C.
Petersburg, Va.
Ontario, Canada
Oriental, N. C.
Sarasota, Fla.
Durham, N. C.
Cumberland, Md.
Goldsboro, N. C.
Covington, Ky
White Plains, N. Y.
Raleigh, N. C.
Baltimore, Md.
Lenoir, N. C.

Wolmering, Robert John
Woodfield, Roland Lawton
Youmans, Corren P
Yourison, James Edward

Adamson, Claude Max Anderson, Dean Floyd Best, Richard Kenneth
Biggs, Joseph Lewis
Blankeship, John Swann, Jr.
Calhoun, Dallas
Callahan, Charles Edward
Campbell, Donald Adams
Capwell, Donald Bruce
Carroll, James William, Jr.
Chapman, Frank A.
Chapman, Robert Willis
Chesson, Eugene, Jr.
Christy, Jack Smith
Clark, Banks Worth
Clark, John Schaumann
Connor, Robert Earl
Day, Douglas Francis
Delionback, Leon Melvin
Dickerson, Claude Malone
Doherty, Andrew Joseph, Jr.
Dwiggins, Gordon Leslie
Egan, James D.
Elmore, Ethelbert P., Jr.
Elrod, William Alexander
Fitch, James Burr, Jr.
Foreman, Jaines M., Jr.
Gibbs, William Bryan
Goldman, Jay
Gulum, Fahir
Hall, Frederick Lewis
Hall, Wayne Thomas
Hamilton, James Love, Jr.
Hannon, Fred Lowrie
Harris, Jack Buren
Harris. Thomas C.
Hayward, Walter Wallace, Jr.
Hazel, Robert Lee
Hoellen, Earl Edwin
Honeycutt, Lex Edward
Hooven, Wilbur Thomas, III
Hottenstine, Richard Daniel
Huffman, William Howard
Jenkins, John LeBon, Jr.
Jordan, Ernest Mansfield, Jr.
Kanipe, James Francis
Kennerly, Clarence Michael
Lark, William Frank
Lillie, George Albert
Loser, Theodore Charles, Jr.
Lucas, Swain Seaton
Major, Howard LeRoy
McCracken, Harold C.
McLean, Howard Jones
Meekins, James Claiborne
Miller, Marvin Vincent
Mincey, James Haywood
Mingus, Henry Sigmon
Mullin, James Louis
Nuttle, Elbert Ray, Jr.
Osborne, James Nelson
Palmer, Cecil Albert
Parker, James Bruce
Parnell, James Thomas
Persechino, Mario A.
Person, James Ellis
Pickett, Hubert Washington, Jr.
Pierce, Miss Francine Gwynne
Pitt, Jack Anderson
Pogany, Ernest Julius
Roberts, William R.
Rose, Elwood Hines

Dunkirk, N. Y.
Washington, D. C.
Miami, Fla.
Wilkinsburg, Pa .

## Senior Class

Good Water, Ala.
Cottage Grove, Ore.
Quincy, Ill.
Durham, N. C.
Rock Hill, S. C.
St. Petersburg, Fla.
South Windsor, Conn.
Chapel Hill, N. C.
Jamaica, N. Y.
Charlotte, N. C.
Glens Falls, N. Y.
Charlotte, N. Y.
Durham, N. C.
Lake Village, Ark.
Durham, N. C.
Wadesboro, N. C.
Johnstown, Pa.
Plainfield, N. J.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Camp Butner, N. C.
Rocky Mount, N. C
Chadbourn, N. C.
Stratford, Conn.
Durham, N. C.
Reidsville, N. C.
Durham, N. C.
Istanbul, Turkey
Haddonfield, N. J.
Asheboro, N. C.
Holden, W. Va.
Charleston, W. Va.
Greensboro, N. C.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Chicago, Ill.
Durham, N. C.
Bryn Mawr, Pa.
Leesport, Pa.
Durham, N. C.
Charlotte, N. C.
Raleigh, N. C.
Brevard, N. C.
High Point, N. C.
Hillsboro, N. C.
Toms River, N. J.
Jonestown, Pa.
Durham, N. C.
Pensacola, Fla.
Douglaston, N. Y.
Tampa, Fla.
High Point, N. C.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Norristown, Pa.
Darlington, Md.
Kent, Ohio
Crystal Hill, Va.
Dunn, N. C
Summit Hill, Pa.
Torrington, Conn.
Portsmouth, Va.
Durham, N. C.
New Rochelle, N. Y.
Westfield, N. J.
Bridgeport, Conn.
Leland. Miss.
Rocky Mount, N. C.

Rudisill, John Arvle, Jr.
Scott, William Edward
Sibley, Donald Malcolm
Siler, Frank Gilmer
Smith, Edwin James
Sorrell, Quinton Lee
Steadman, Robert Harry
Steiner, Kenneth J.
Stewart, Harvey Hester, Jr.
Stockslager, Arthur James
Stone, Albert Leppo
Stone, George Rollins
Strandberg, Charles F.
Sutphin, Arthur Thomas
Tager, Milton Lee
Taylor Joseph Wilson
Trippel, Gerald Edward
Trusk, George
Tubbs, David L.
Underwood, John Thomas
Wall, Richard David
Waltman, Raymond Hugh
Warnick, Edward Eugene
White, Arthur Remington, Jr.
William. Bill Rowney
Williamson, Cecil Floyd
Williamson, Max LaVern
Wilson, Hubert Leroy, Jr.
Wilson, Walter Grier
Wood, Thomas Edward
Wright, Robert Toombs, III
Wuchte, John Irving

Gibsonville, N. C.
Woodhaven, N. Y
San Francisco, Calif.
Tampa, Fla.
Ft. Myers Beach, Fla.
Durham, N. C.
Swampscott, Mass.
Jeannette, Pa.
Charlotte, N. C.
Westfield, N. J.
Winterhaven, Fla
Mt . Pocono, Pa.
Greensboro, N. C.
Princeton, N. J.
Durham, N. C.
Deep Gap, N. C.
Forest Hills, N. Y.
Chicago, Ill.
Charleston, W. Va.
Durham, N. ©
Baltimore, Md.
Charlotte, N. C.
Rochester, N. Y.
Richmond, Va .
Charlotte. N. C.
Columbus, N. C.
Creston, Iowa
Durham, N. C.
Charlotte, N. C.
Durham, N. C.
L.ookout Mt., Tenn.

Myerstown, Pa.

## WOMAN'S COLLEGE

## Freshman Class

Adams, Frances Parker
Ahern, Paula Elizabeth
Aldridge, Cornelia B.
Allen, Charlotte Marguerite
Alyea, Nancy Anderson
Anderson, Katherine McClure
Armiger, Anne Riclardson
Atkinson, Jane Cary
Babb, Helen Lee
Bacon, Mary Ann
Barge, Ann Reeves
Barnes, Norna Anne
Barrows, Nancy Ward
Beach, Ruth Isabelle
Beal, Mays Caroline
Behn, Betty Lou
Bishop, Margaret Jean
Bishop, Willie Joan
Black, Marilyn Elizabeth
Blanks, Marguerite
Blight, Jane Ann
Bohn, Mary Lucile
Bolich, A nne Harrison
Bolmeier, Barbara Joan
Bolmeier, Hazel Jane
Boyle, Beverly Kay
Boysworth, Jeannine
Brackett. Jean Lal Yvonne
Brigstocke, Joan Dumbar
Broaddus, Claire Tyler
Brokenshire, Janet D.
Brooks, Elizabeth Ann
Broun, Caroline Gordon
Brown, Sally Ann
Brown, Sarah May
Bruce, Betty Louise
Brunkow, Jane Frances
Bryan, Jean Lockitt
Burch, Caroline Sue
Campbell. Carolyn Sue
Canada, Betty May
Cannell, Nancy Jean

Washington, D. C.
Atlantic Beach, Fla
Wayne, Pa.
Atlanta, Ga
Durham, N. C.
Macon, Ga.
Baltimore, Md.
Enfield, N. C.
Raleigh, N. C.
Middletown, Conn.
Durham, N. C.
Charles Town, W. Va.
Cincimnati, Ohio
Oneida, N. Y.
Gastonia, N. C.
Gary, Ind.
St. Petersburg, Fla.
Raleigh, N. C.
Baltimore, Md.
Jacksonville, Fla.
Huntington Woods, Mich.
Lenoir, N. C.
Durham, N. C.
Durham, N. C.
Durhain, N. C.
Clayton, Mo
Albemarle, N. C.
Gastonia, N. C.
Dover, Pa
Bowling Green, Va
Allentown, Pa .
New Rochelle, N. Y.
Roanoke Rapids, N. C.
Charlotte, N. C.
Rutherford, N. J.
Palatka, Fla.
Pelham Manor, N. Y.
Cleveland, Ohio
Arlington, Va.
Summersville, W. Va.
Summit, N. J
Shaker Hights, Ohio

Cantrell, Catherine Jane
Carmichael, Marcia Lee
Carr, Mitta Gairdner
Carter, Katherine Ray
Cartwright, Margaret Elizabeth
Causey, Ann Elizabeth
Clay, Jane Elaine
Clements, Peyton
Cohan, Mary Patricia
Cohoon, Patricia Julia
Collins, Patricia Jean
Cooke, Betty Sue
Cooper, Dora Anne
Cooper, Stephanie Hilda
Corzett, Joan
Couch, Sally Louise
Craig. Bette Hoyle
Crenshaw, Ann Dabney
Crew, Arlene
Crowell, Joan Lovelace
Crutcher, Frances D
Currie, Betty London
Dabney, Elizabeth P.
Daniels, Edna Virginia
Davis, Ann
Davis, Mary Leila
Dawson, Mary Howland
DePass, Nancy Witherspoon
Deyton. Ann Woody
Dickert, Elizabeth Ann
Dietz, Hattie Louise
Divine, Elinor Faxon
Dollens, Marjorie Lou
Donnelly, Romana Kathryn
Dowdy, Patricia Ann
Downes, Mary Elizabeth
Drew, Dora Ann
Dunham, Dorothy Elizabeth
Dunkum, Barbara Ann
Edens, Eleanore Jean
Efland, Margie Ann
Elder, Mary Louise
Eley, Elizabeth Jump
Engel, Beth Bland
Esch, C. Elaine
Evans, Barbara Lee
Evans, Carol Austin
Faulkner, Anne Elizabeth
Finter, Patty Preston
Fisher, Margaret Alice
Fisher, Ruth Ann
Fowler, Cody
Fowlkes, Nancy Ann
Galloway. Barbara
Garrigues, Rose Marie
Gatsch, Marie
Gibbons, Lesta Anne
Gilbert, Catherine Lee
Gilliam, Frances Joan
(iilmour, Jane Oakley
Class, Nina Ruth
Gleason, Jane Lansing
Cilover. Frances Marie
Goldman, Sally Ann
Goldthwaite, Alice Helen
Gordon, Davida Dare
Gore, Dorcas Anne
Gotwals, Kathryn Lee
Greco, Miriam Adele
Groome, Augusta
Grover, Joan Louise
Gryder, Barbara Jean
Gummels, Joan Martha
Gunderson, Ann Kathryn
Hampe, Carol Thorne
Harding, Katherine Dean
Hardison, Mary Adele
Hardison, Sallie Elizabeth
Harney, Patsey Field

Atlanta, Ga .
Gloucester, Va.
Oxford, N. C.
Maxton, N. C
Ferndale, Mich.
Bethesda, Md.
Roselle Park, N. J.
Durham, N. C
Wooster, Ohio
Columbia, N. C.
Miami, Fla.
Norfolk, Va.
Raleigh, N. C.
New Haven, Conn.
Arlington, Va
Chapel Hill, N. C.
Mt. Holly, N. C.
Clinton, Tenn.
Orlando, Fla
Enka, N. C
Savannah, Ga.
Richmond, Va.
Lexington, Ky.
New Bern, N. C.
Olean, N. Y.
Delray Beach, Fla.
Sanford, N. C.
Camden, S. C.
Brevard, N. C.
Upper Darby, Pa.
Covington, Ga.
Kingsport, Tenn.
Elmhurst, I11.
Durham, N. C.
Durham, N. C.
Canton. Ohio
Alton, Ill
Warren, Pa.
Washington, D. C.
Columbia, S. C
Efland, N. C.
Albemarle, N. C.
Queen Anne, Md
Durham, N. C.
Skokie, IIl
Maplewood, N. J.
Jenkintown, Pa .
Birmingham, Mich.
Washington, D. C
Pleasant Ridge, Mich.
Wilmington, N. C.
Tampa, Fla.
Vicksburg, Miss.
Savannah, Ga.
Warrior, Ala.
Toms River, N. J.
Norwalk, Ohio
Ft. Lauderdale, Fla.
Oak Ridge. Tenn.
Pleasant ville. N. Y.
Kannapolis, N. C.
Eau Gallie, Fla,
Orlando, Fla.
Burlington, N. C.
Indianapolis, Ind.
Southport, Conn.
Raeford, N. C
Philadelphia, Pa.
Philadelphia, Pa .
High Point, N. C.
Northampton. Mass
Burlington, N. C.
Webster Groves, Mo.
East Orange, N. J.
Maumee, Ohio
Orlando, Fla.
Wadesboro, N. C.
Williamston, N. C.
Richmond, Ky.

Harter, Barbara Alice
Hauser, Frances Marguirette
Heim, Clara Ann
Hennessey, Ellen
Hershey, Sue Lyn
Hilliard, Betty Joyce
Hinson. Patsy Travis
Hoffman, Joyce Ann
Holbeck, Anne Miller
Holloway, JoAnne Foster
Holton, Mary-Marie
Hooker, Grace Lois
House, Martha Lillian
Howard, Florence Katherine
Howard, Peggy Ann
Huckabee, Page DuBois
Hughes, Ruth Hundley
Hull, Judith Eileen
Hulse, Irene
Hunter, Emma Lelia
Hurst, Nancy May
Jackson, Helen Louise
Jacobs, Mary Lou
Jahn, Jeryl May
Jenkins, Dorothy
Jenkins, Erolyn Howard
John, Louise Reese
Jolders, Dwayne Sandra
Jones, Shirley Jean
Jones, Virginia Ruth
Jordan, Margaret Stephens
Kale, Sarah Dean
Karayanni, Nefely
Kauffman, Holiday Clay
Keister, Nancy Ann
Kime, Mary Lois
Kimmel, Ruth Louise
Kirk, Gene Still
Kirkman, Shirley Elizabeth
Knott, Marsha
Koons, Jean Thorburn
Kosterlitz, Ruth
Lahn, Ina Lois
Lake, Eleanor Betty
Lamond, Mary Wilson
LaMothe, Joan Claire
Lawrence, Leone Elizabeth
Lea, Virginia Ramsay
Ledford, Ruth Marie
Levenson, Bernice
Levin, Ann Ruth
Lindsay, Barbara Bremer
Lipscomb, Nell Imogene
Little, Margaret Lillian
Longcrier, Mary Alice
Lonon, Frances Kennedy
Lucas, Margaret MacMillan
Lynch, Jane Ellen
Lyon, Mary Lou
Maass, Barbara Hill
Mackie, Patricia Jean
Maitland, Edwina Churchill
Malawista, Joan Enid
Markee, Shirley June
Martin, Dolores Gayle
Massie, Mary Ann
Matheson, Alice Sutton
McBride, Elsa Tice
McCain, Patsy Ray
McCarter, Joan Adele
McClamroch, Ann Snowden
McConnell, Marion Louise
McCoy, Betty June
McElroy, Elizabeth Ann
McGee, Marianna
McGill, Lelia Autrey
McKelvey, Priscilla Kay
McKenzie, Ann Williford
McKinney, Jane Fulton

Washington, D. C.
Durham, N. C.
Montoursville, Pa.
Weehawken, N. J.
Birmingham, Mich.
Oxford, N. C.
Charlotte, N. C.
Sunbury, Pa
Clifton, N. J.
Smithfield, Va.
Louisburg, N. C.
Camp Lejeune, N. C.
Atlanta, Ga.
Dunn, N. C.
Williamsport, Md.
Albemarle, N. C.
Randleman, N. C
Charlotte, N. C.
New York, N. Y
Fayetteville, N. C.
Winchester, Va
Jacksonville, Fla.
Middlesboro, Ky.
Manhasset, L. I., N. Y.
Aulander, N. C.
Nashville, N. C.
Olean, N. Y.
Evanston, Ill.
Durham, N. C.
Buffalo, N. Y.
Buenos Aires, Argentina, S.A.
Kannapolis, N. C.
Athens, Greece
Lancaster, Ky.
Albany, N. Y.
Bala-Cynwyd, Pa
Milford, Del.
Tupelo, Miss.
High Point, N. .C.
Charlotte, N. C.
Newton, N. J.
Irvington, N. J.
Norwich, Conn.
Charlotte, N. C.
Alexandria, Va.
St. Louis, Mo.
Glen Ellyn, Ill.
Rocky Mount, N. C.
Durham, N.C.
Salisbury, N. C.
Miami Beach, Fla.
Toledo, Ohio
Jacksonville Beach, Fla
Lexington, N. C.
Saxapahaw, N. C.
Kinston, N. C
Burgaw, N. C.
Pleasantville, N. Y.
Madison, W. Va.
Glen Rock, N. J.
Hamilton, Ohio
Tenafly, N. J.
New York, N. Y.
Durham, N. C.
Virginia Beach, Va.
Waynesville, N. C.
Raeford, N. C.
Brighton, Mass.
Asheboro, N. C.
River Forest, Ill.
Chapel Hill, N. C.
Atlanta, Ga .
Alliance, Ohio
Houston, Texas
Savannah, Ga.
East Orange, N. J.
Greensburg, Pa .
Alexandria, Va
Winston-Salem, N. C.

McMasters, Ellen
McRae, Martha Kate
Merritt, Marjorie Ann
Michael, Doris Hall
Milford, Dolores Ann
Miller, Joan Frances
Miller, Nancy June
Mobley. Mariann
Mood, Florence Fulton
Morris, Pattie Blount
Morrison, Harriet Anne
Murchie, Muriel Elsie
Nichols, Helen Stanley
Nichols, Nancy Elizabeth
Nowell, Jean Marshall
O'Brien, Jay
Oelkers, Camille B.
Ogle, Carol Ann
Oliver, Nancy Gail
Olson, Mary Margaret
Pappas, Nancy Lee
Parham, Patricia
Parker, Suzanne
Perry, Pauline Slater
Phillips, Elizabeth Lee
Platte, Dorothy Ann
Potamkin, Dana Lizbeth
Pringle, Joan
Quarterman, Maneta Ann
Rae, Ruth Pauline
Raney, Patricia
Reans, Mary Glenn
Rehm, Edith Theodora
Reimer, Jane Barbara
Riegle, Shirley
Riggs, Mary Alice
Roberts, Winafred Joyce
Robinson, Mary Ann
Rogers, Martha Ann
Ryan, Patricia
Sage, June Carol
St. John, Joanne
Sarratt, Ann Elizabeth
Saunders, Josie Anita
Saunders, Virginia Shea
Scaff, Annette Lee
Schlatter, Elizabeth Anne
Schuster, Ann Prescott
Schweistris, Lazette Yvonne
Seaberg, Barbara Glenn
Self, Leah Margaret
Seligman, Jan
Shapiro, Susan
Shepherd, Bernice Clarke
Sherertz, Margarita Park
Shuford, Anne
Siegel, Frances Stella
Siegle, Betty Louise
Silver, Elizabeth Phelps
Sims, Betty Kathleen
Smith, Virginia Eleanor
Smyers, Martha Jane
Spunde, Ingrida
Stangeland, Greta Sonia
Steele, Bobbye Carolyn
Stevens, Mary Loretta
Stiles. Susan Gay
Stubbins, Billie Jeanne
Sutphen, Suzanne Virginia
Sutton, Rachel Marie
Swift, Isabelle Boyd
Thompson, Betsy King
Tignor, Nan Kellum
Tompkins, Carolyn Voncile
Trentman, Betty Denne
Trowbridge, Cornelia Hubbard
Turner, Florence Delia
Urban, Dolores Jeanne
Vail, Nancy Elizabeth

St. Petersburg, Fla.
Montgomery, Ala.
Easley, S. C
Baltimore, Md.
Washington, D. C.
St. Ptersburg, Fla.
Coral Gables, Fla.
Reidsville, N. C.
Ft. Meade, Md.
Hertford, N. C.
Washington, D. C.
Bridgeport, Conn.
Long Branch, N. J.
E. Cleveland, Ohio

Macon, Ga.
Northampton, Mass.
Coral Gables, Fla.
Washington, D. C.
Wilmington, N. C.
Haines City, Fla.
Fredericksburg, Va.
Montreal, Canada
Youngstown, Ohio
Daytona Beach, Fla.
Durham, N. C.
Upper Montclair, N. J.
Miami, Fla.
Lake Worth, Fla
Jacksonville, Fla.
Scarsdale, N. Y.
Arlington, Va.
Toledo, Ohio
Savannah, Ga.
DeLand, Fla.
Daytona Beach, Fla
Memphis, Tenn.
Columbus, Ga.
Asheville, N. C.
Albans, W. Va.
Chevy Chase, Md.
Plainfield, N. J.
Garden City, N. Y.
Gaffney, S. C.
Westbury, L. I., N. Y.
High Point, N. C.
East Orange, N. J.
Washington, D. C.
Kirkwood, Mo.
Greensboro, N. C.
Tenafly, N. J.
Siler City, N. C.
York, Pa.
Washington, D. C.
Norfolk, Va.
Soochow, China
Thomasville, N. C.
Belleville, Ill.
Springfield, Va.
Washington, D. C.
Summit, N.J.
Columbus, Ohio
Pittsburgh. Pa.
Riga, Latvia
Brooklyn, N. Y.
Kannapolis, N. C.
Bloomfield, N. J.
Atlanta, Ga .
Rio de la Plata, Mexico
Trenton, N. J.
Wilmington, N. C.
Philadelphia, Pa .
Durham, N. C.
Hampton, Va.
Jacksonville, Fla.
Raleigh, N.C.
Ormond, Fla.
Winston-Salem, N. C.
Ashland, Ky.
Sarasota, Fla.

Van Billiard, Alicia Pauline
Van Natta, Barbara Diane
Vaughan, Marilyn Frances
Vandig, Laurie Ann
Virnstein, Carmel Clare
Vokoun, Sally Arlene
Wace, Pamela Evelyn
Walden, Lenore Emy
Waldrop, Lois Zeigler
Walker, Mary Hope
Watchman, Avis Rand
Waterfield, Frances McGill
Watkins, Juanita Wanda
Watkins, Martha Jen
Watkins, Martha Letitia
Weber, Emily Ann
Weeks, Ethel Gwendolyn
Weigel, Mary Patricia
Wendes, Marian Phyllis
Westcott, Marilyn Joyce
White, Christina Kathryn
Whitley, Nina Carolyn
Wichman, Ann Elise
Wike, Catherine Shirley
Wilson, Paddy Ann
Wilson, Patricia Carroll
Winters, Mary Tepel
Woodhouse, Cecile Reyburn
Woolery, Martha Belle
Worley, Ellen Jane
Worrell, Margaret Geiger
Wright, Helen Lucille
York, Shirley Rose
Young, Bettic Anne
Zanner, Genevieve Ellen
Zapf, Brenda

Anderson, Nancy Inez
Andrews, Jane Raine
Arrants, Betty Rose
Arthur, Marjorie Speer
Ballard, Catherine Anne
Barker, Pansy Marie
Barnhardt, Anne Louise
Bartlett, Elizabeth Ann
Batuer, Louise Julianne
Beachley, Jo Ann
Bell, Josephine A.
Berner, Carline
Bixby, Mary Louise
Blackwell, Lucy Mashburn
Bogardus, Carolyn Jean
Bohlin. Carol
Bowen, Phoebe-May
Bowers, Betty Juanita
Bowers, Mary Blair
Boyd, Ann Custis
Brantley, June Caroline
Brenneman, Beverly Ann
Brent, Catherine Hart
Brittain, Catherine Moore
Bronaugh, Jeanne Hazel
Broome, Wilma Frances
Brown, Allie Mercer
Brown, Marion Louise
Brown, Norma Marie
Bryant, Helen Cantrell
Bryson, Elizabeth Dixon
Bullington, Kate Carroll
Burcham, Jean Arthur
Cannon. Jo Anne
Carr, Emily Catherine
Carter, Patricia Jean
Cassell, Nancy Anne
Castle, Constance Helene
Cekada, Althea Grey
Cbamberlain, Carrie Stickney

Bethlehem, Pa.
Atlanta, Ga.
Needham, Mass
Sarasota, Fla.
Wa shington, D. C.
Lakewood, Ohio
Tampa, Fla.
Alexandria, Va.
Greenville, N. C.
Atlanta, Ga.
W. Englewood, N. J.

Ft. Wayne, Ind.
Stem, N. C.
Grosse Pointe Farms, Mich.
Louisville, Ky.
Clayton, Mo.
Charlotte, N. C.
Cleveland, Ohio
Englewood, N. J.
Tenafly, N. J.
Morganton, N. C.
Aurora, N. C.
Ft. Wayne, Ind.
New Bern, N. C.
Washington, N. C.
Winter Park, Fla.
Williamsport, Pa .
Birmingham, Mich.
Raleigh, N. C.
Grosse Pointe, Mich.
Palm Beach. Fla.
Beaufort, N. C.
Germantown, Tenn.
Durham, N. C
Washington, D. C.
E. Aurora, N. Y.

## Sophomore Class

Elmhurst. IIl.
Graham, N. C.
Athens, Tenn.
Bridgeton, N. J
Owings Mills, Md.
Durham, N. C.
Durham, N. C.
Rockford. Ill.
Newark, N. J.
Hagerstown, Md.
Durham, N. C
Clewiston, Fla.
Detroit, Mich.
Gneiss, N. C.
Pleasantville, N. Y.
Needham, Mass.
Daytona Beach, Fla.
Albemarle. N. C.
Jackson, N. C.
Newport News, Va.
Salisbury, N. C.
Mc Keesport, Pa .
Washington, D. C.
Tallahassee, Fla.
Brooklyn, N. Y.
White Plains. N. C.
Durham, N. C.
Niagara Falls. N. Y.
Scranton, Pa .
Winston-Salem, N. C.
Bryson City, N. C.
Houston, Texas
Durham, N. C.
Ft. Bragg, N. C.
Richmond, Ky.
Gulfport, Miss.
Fair Lawn, N. J
Hillsdale, Mich
Durham, N. C.
Greensboro, N. C.

Cherry, Paınela
Chester, Carolyn Elizabeth
Christian, Mary Ann
Clark, Ruth Duvall
Cline, Barbara Ann
Cobb, Fay Ann
Coleman, Mary Elizabeth
Colledge, Lois June
Collinson, Ruth Eleanor
Constantine, Margaret Louise
Cook, Nancy Lane
Cool, Jeanette Adams
Courtney, Virginia Amb
Crews, Ann
Crow, Barbara Anne
Crutchfield, Callie Sue
Cunningham, Betty Ruth
Dameron, Peggy Lee
Daniel, Barbara Orr
Davidson, Barbara Lynette
Davies, Ann Katherine
Davis, Katharine Anne
Dayis, Margaret Jane
Deimel, Carmelita Ruth
Depp, Beatrice Louise
Derby, Jean Leslie
Dixon, Alta Juanita
Dodson, Phyllis Patricia
Draughon, Carol Lee
Duncan, Laura May
Early, Mary Laws
Eklund, Helen Mae
Ervin, Margaret Leslie
Faber, Sandra Suzanne
Fairley, Nancy Elizabeth
Farnham, Marjorie Arlene
Feinberg, Simmel Myra
Fisher, Dorothy Louise
Flanders, Alice Margaret
Flanders Mary Adelaide
Flickinger, Nancy Kathleen
Francis, Patricia Ann
Fritz, Priscilla Tyler
Garber, Janet Winifred
Gaskin, Lillian Rebecca
George, Barbara Lou
Gerber, Sara Kathryn
Goode, Jane Ann
Greene, Joan S.
Guigou, Phyllis Lillian
Gulledge, Jane Bailey
Hall, Barbara Eloise
Hanımond, Ann Phifer
Hance, Martha Wilmoth
Harmin, Lelia Ann
Harris, Mary Elizabeth
Harris, Nancy Jean
Harris, Virginia Lee
Hartung, Holly Williams
Hatley, Betty Jo
Hedrick, Betty Jo
Heinke, Betty
Hillen, Jill
Hollingsworth, Marianne
Hough, Hester VanMetre
House, Anne Elizabeth
Ingwersen, Joan
Jacobs, Elinor Louise
John, Kay Eleanor
Johnson, Mary Shelagh
Jones, Barbara Louise
Keeling. Mary Jane
Kelly, Sally Perry
Kinney, Virginia Marie
Kohl, Margaret Valerie
Lassiter, Elizabeth Estelle
Laubenheimer. Carol Jean
Lauer, Edith Anne
Law, Rosamund Hilbert

Durham, N. C.
Southern Pines, N. C.
Durham, N. C.
Tarboro, N. C.
Norfolk, Va.
Park Ridge, Ill.
Winston-Salem, N. C.
Montvale, N. J.
Connelsville, Pa.
Racine, Wis.
Burlington, N. C.
Shaker Heights, Ohio
Lenoir, N. C.
Winston-Salem, N. C.
Asheville, N. C.
Durham, N. C.
Winston-Salem, N. C.
Burlington, N. C.
Raleigh, N. C.
Columbus, Ga
Huntington, W. Va.
Orange, N. J.
Leaksville, N.. C.
Washington, D. C.
Winston-Salem, N. C.
Rockland, Mass.
Elm City, N. C.
Washington, D. C.
Clayton, Mo.
Decatur, Ga.
Jacksonville, Fla
Philadelphia, Pa.
Raleigh, N. C.
Ft. Lauderdale, Fla.
Raleigh, N. C.
New Haven, Conn.
Miami Beach, Fla.
Columbia City, Ind.
Newark, N. J
North Weare, N. H.
South Bend. Ind.
Roanoke, Va.
Montgomery, Ala.
Carlisle, Pa.
Albemarle, N. C.
High Point, N. C.
Arlington, Va.
Lincolnton, N. C.
Coral Gables, Fla.
Valdese, N. C.
Albemarle, N. C.
Quincy, Mass.
Charlotte, N. C.
Kenmore, N.
Sarasota, Fla.
Winston-Salem, N. C.
Toledo, Ohio
Summit, N. J.
Newport, R. I.
Albemarle, N. C.
High Point, N. C.
Miami, Fla.
Clayton, Mo.
Norfolk, Va.
Ft. Myers, Fla.
Bethel, N. C.
Middletown, Ohio
Longmeadow, Mass
Grand Island, Neb.
Bogota, Colombia, S. A.
Baltimore, Md.
Portland, Ind.
Wilmington, N. C.
Pittsburgh, Pa.
Easton, Pa.
Winston-Salem, N. C
Huntington, L. I., N. Y.
Evansville, Ind.
S. Charleston, W. Va,

Leffler, May Martin
Lester, Patricia Lou
Lewis, Elizabeth Marie
Lewis, Jacqueline Ann
Lindsay, Jane Benham
Lobell, Marcia Joan
Long, Sara Dalton
Lord, Elizabeth Eugenia
Lundberg, Ann Elizabeth
Lyon, Joyce Elaine
Lyon, Lucy Gay
Mader, Joan Maxine
Magee, Laurin Weeks
Marder, Naomi Cooley
Margolis, Barbara Joan
Marsh, Mary Margaret
May, Louise Simpson
McAfee, Joyce Montgomery
McClure, Marie Price
McCullough, Doris Patton
McGee, Juanita Blaine
McKee, Janet Faye
McKerley, Rita Adele
McMullen, Sue Carroll
Mendenhall, Olivia Anne
Miles, Jane Cynthia
Mills, Carol Reading
Morey, Prudence
Moser, Marilyn Beverly
Murray, Barbara Muriel
Murray, Mary Jane
Myatt, Ruth Arlene
Nagel, Joanne Martha
Nicholson, Frances Stagg
Nierman, Joyce Miriam
Noble, Barbara Ann
Nordwall, Sigrid Ann
O'Donovan, Patricia
Oliver, Joan Howard
Olsen, Betsey Jane
O'Neal, Margaret Wise
O'Quinn, Mary Ellen
Owens, Janice Clibourne
Parker, Grace Mildred
Peeler, Nancy Whitener
Pepper, Patricia
Perez, Doris
Perks, Lorna Lou
Petersen, Emily Jane
Pettit, Marjorie Ann
Pickens, Mary Susan
Phillip, Patricia Lee
Pinnix, Joan Henry
Plumb, Anne Elizabeth
Pool. Betsy Baucom
Poole, Evelyn Connelly
Potts, Jacqueline Bechmann
Powell, Grace Marie
Price, Ann Ximena
Purviance, Patricia Corrine
Quarck, Ursula Carola
Randolph, Elizabeth Ann
Reid, Celia Minton
Reinhart, Janet Burnside
Reinsch, U'te
Reynolds, Helen Joyce
Rezzonico, Louise Kay
Richards, Kathryn Joan
Richardson, Margaret Catherine
Rivitz, Ila Suzanne
Roberts, Joanne
Roberts, Mary Louise
Roberts, Patricia Catherine
Rooker, Mary Alice
Rose, Patricia Ann
Routon, Betty
Runyan, Nancy Louise
Russell, Elizabeth Craig
Russell, Peggy Ann

Miami, Fla.
St. Petersburg, Fla.
Charlotte, N. C
East Orange, N. J.
Toledo, Ohio
Fayetteville, N. C
Winston-Salem, N. C.
Jacksonville, Fla.
Birmingham, Mich.
St. Augustine, Fla.
Starkville, Miss.
Miami, Fla.
Ridgewood, N. J
Asheville, N. C.
Williamston, N. C.
Swarthmore, Pa .
Burlington, N. C.
Macon, Ga.
Valley Stream, N. Y.
Durham, N. C.
Mt. Airy, N. C.
Kirkwood, Mo.
Winston-Salem, N. C.
Detroit. Mich
Orlando, Fla.
Durham, N. C
East Orange, N. J.
Lexington, Mass.
Baltimore, Md.
Ridgewood, N. J.
Tampa, Fla.
Durham, N. C
Brooklyn, N. Y.
Durham, N. C.
Cincinnati, Ohio
Wynnewood, Pa.
Larchmont, N. Y.
Flushing, L. I., N. Y.
Wellesley Hills, Mass.
Norfolk, Va
Macon, Ga.
Ft. Pierce, Fla.
Greenville, N. C
Madison, N. J.
Salisbury, N. C.
Portsmouth, Va.
Hempstead, L. I., N. Y.
Rockford, Ill.
Houston, Texas
Washington, D. C
Port Washington, L. I., N. Y.
Raleigh, N. C.
Gastonia, N. C.
Savannah, Ga.
Winston-Salem, N. C.
Bailey, N. C.
Wilmette, Ill.
Augusta, Ga.
Lambertville, N. J.
Akron, Ohio
Port Washington, L. I., N. Y.
Toledo, Ohio
St. Augustine, Fla.
Larchmont, N. Y.
Berlin, Germany
W. Los Angeles, Calif.

Charleston, W. Va.
Merion, Pa.
Durham, N. C.
Newark, Ohio
Kenmore. N. Y.
Durham, N. C.
Scarsdale, N. Y.
Warrenton, N. C.
Allentown, Pa .
Miami, Fla.
Washington, D. C.
Upper Montclair, N. J.
High Point, N. C.

Sattele, Mary Lou
Schulz. Irene Marie
Shaw, Sarah Priscilla
Shore, Lelia Laura
Smiseth, Alherta Mali
Smith, Frances Sue
Smith, Nancy Farrell
Smith, Shirley Mason
Snyder, Barhara Edith
Speas, Margaret Alspaugh
Spikes, Camilla Watts
Spring, Katherine Ann
Stevens, Thelma Chloe
Stokes, Marilyn Verniez
Stone, May Sloan
Sullivan, Elizabeth Macken
Sutton, Sara Jean
Switzer, Marilyn Ann
Tatum, Anne Low
Taylor, Elinore Dannenberg
Taylor, Iola Hardy
Taylor, Thelma Ann
Thompson, Alicejean
Tiller, Lucy Carroll
Tracy, Marian Eleanor
Tuttle, DeLossie Dean
Vance, Evaline Irene
Wade. Charlotte Rowena
Wahl, Marjorie Ann
Waltz, Jane Carol
Watkins, Nancy Thomas
Wehb. Patricia Ann
Weedon, Josephine Davis
Weidenhan, Marion Clare
Weir, Jean Shirley
West, Emily
Whims, Janet
Whitaker, Patricia Ann
Wiggins, Anna Baker
Wilkinson, Mary Ann
Williams, Nancy Carolyn
Wills, Ruth Vines
Wilson, Jennet Mae
Wise, Marilee
Wise, Peggy Jeanne
Woodall, Adele
Woollen, Rebecca Meginley
Wooten, Patsy Jones
Wright, Mary Elizabeth
Yeager, Tessie Frances
Youmans, Alice Jean
Young, Isahelle Mary
Young, Katherine
Ziegler, Joan S.
Zipplies, Claire

Akers, Mary Elizabeth Alhert, Betty Lu Arendell. Julia Anne Arnold, Mary Louise Arrington, Elizabeth Austin, Carol Lynn Awtrey, Margaret Anne
Bailey, Mary Catherine
Bailey, Phoebe Crane
Baldwin, Sarah Karnes
Ballentine, Margaret Ann
Ballentine, Sara Janis
Barnett, Jean
Barringer, Norma Page
Baxter, Doris Jane
Beck. Caroline Adelaide
Bell. Elizabeth Dunn
Bell. Leslie Cast
Best, Charlotte Marian
Bieber, Elsie Ruth
Bilogan, Rose Mary

Loraine, Ohio
Winter Park, Fla.
High Point, N. C.
Charlotte, N. C.
St. Petersburg. Fla.
Verona. N. J.
Louisville, Ky.
Albemarle, N. C.
Roslyn, L. I., N. Y.
Asheville, N. C.
Burlington, N. C.
Gainesville. Ga.
Jacksonville, Fla.
Canton, N. Y.
Raleigh, N. C.
Macon, Ga
Cullowhee, N. C.
Norwalk, Ohio
Salisbury, N. C.
Muntington, W. Va.
New Bern, N. C.
Maitland, W. Va.
Detroit, Mich.
Brunswick, Ga.
Osprey, Fla.
Greensburg, Pa.
Coral Gahles, Fla.
Canton, Ohio
Thomasville, Ga.
West Orange, N. J.
Oxford, N.C.
Beaufort, N. C.
Jamestown, N. Y.
Baltimore, Md.
Media, Pa.
Ft. Lauderdale, Fla.
Berea. Ohio
Silver Spring, Md.
Hartsdale, N. Y.
Birmingham, Mich.
Belleville, IIl.
Erwin, Tenn.
West Reading, Pa .
Bells, Tenn.
Montgomery, Ala.
Guntersville, Ala.
Baltimore, Md.
Hookerton, N. C.
Durham, N. C.
Jacksonville. Fla.
Miami, Fla.
Marietta, Pa.
Belle Glade, Fla.
Philadelphia, Pa.
Savannah, Ga.

Bethesda, Md.
Jacksonville, Fla.
Raleigh. N. C.
Quincy, Fla.
Tavares, Fla
Chattanooga, Tenn.
Atlanta, Ga.
Troy, N. Y.
Winchendon. Mass.
Durham. N. C.
Anderson, S. C.
Anderson, S. C.
Westfield, N. J.
Durham, N. C.
Toledo, Ohio
Upper Montclair, N. J.
Scarsdale, N. Y.
Quincy, Ill.
Fleetwood, Pa.
East Orange, N. J.

Blakley, Jane Elizabeth
Boone, Emily Milton
Boone, Rachel Suzanne
Borden, Ethel
Borden, Nancy Belle
Bouton, Freda Lorraine
Boyer, Barbara Jean
Boyle, Lyllian Gray
Bradley, Mary Jean
Branch, Mary Alice
Bridgers, Ann Anderson
Brock, Dorothy Ann
Bronson, Anne Leake
Brown, Anna Marie
Browning, Virginia Crawford
Bruggeman, Sarah Amelia
Buchanan, Anne
Butler, Erma Maude
Butz, Mary Sarah
Byrne, Sally
Camm, Gertrude Elizabeth
Casselberry. Ruth Ann
Chapman, Marion Frances
Chappell, Grace Elizabeth
Church, Alice Graham
Cleaveland, Carol Loraine
Clements, Mary Anne
Coble, Barbara Lou
Coggin, Sarah Jane
Collier, Anne
Conoly, Suzanne
Conrad, Patricia Ann
Corpening, Barbara
Couble, Judith P.
Craig, Joan
Crowell, Doris Lee
Dackis, Kalliope Irene
Demarest, Nancy Ramey
Dodge, Jaqueline
Draughon, Joanne Dazey
Ely, Elizabeth Cury
Ennis, Kathleen
Everitt, May Bess Redford
Fahringer, Ruth Alvern
Falin, Joanne
Farrington, June Marie
Feaster, Norma Dana
Featherstone, Sara Jane
Flanders, Jane Anne
Fleming, Mary Frances
Flintom, Anne Boyd
Forrest, Dianne
French, Ellen Fleming
Fritz, Martha Anne
Frost, Elizabeth Whitney
Gebert, Joan Phyllis
Geitner, Alice Nixon
Glass, Nancy Cobb
Golden. Dorothy Lita
Goodman, Marilyn Bertha
Gore, Alice Richards
Gosnell, Carolyn Forte
Grainger. Lillian Elizabeth
Green, Barbara Louise
Groves, Miriam Elizabeth
Haldeman, Lillian Virginia
Hall. Jane Madeline
Hamner, Carolyn Cowsert
Hanser. Jana Lucille
Harmeling, Jane
Harrison, Priscilla Ann
Hauser, Betty Lucile
Hay, Virginia Anne
Heflin, Patricia Gordon
Henchie, Janet Hamilton
Herndon, Joyce Camille
Herr, Billye Barr
Hickman, Elizabeth Cline
Hight, Jeanne

Alliance, Ohio
Memphis, Tenn.
Penn's Grove, N. J.
Concord, Mass.
Philadelphia, Pa
Madison, N. J.
Washington, D. C.
Sanford, Fla.
Kirkwood, Mo
Schenectady, N. Y.
Wilson. N. C.
Tuckahoe, N. Y.
Greenwich, Conn.
Hendersonville, N. C.
Mobile, Ala.
Dayton, Ohio
Durham, N. C.
Addison, N. Y.
Jacksonville, Fla.
Pewee Valley, Ky.
Osborn, Ohio
Phoenxville, Pa .
Burlington, N. C.
Atlanta, Ga.
Charlotte, N. C.
Morristown, N. J.
Durham, N. C
Toledo, Ohio
Cary, N. C.
Ormond Beach. Fla
Jacksonville, Fla.
High Point, N. .C.
Granite Falls, N. C.
Arlington, Va.
Camp Hill, Pa.
Lincolnton, N. C.
Durham, N. C.
Plainfield, N. J.
Macon, Ga.
Clayton, Mo.
Narrows, Va.
Alexandria. Va.
Durham, N. C
Clarksville, Va.
Kingsport, Tenn.
Washington, D. C.
Miami, Fla.
Washington, N. C.
Newark, N. J.
Bethesda, Md.
Charlotte, N. C.
Boston, Mass.
Woodstock, Va.
Walkertown, N. C.
Catskill, N. Y.
Union, N. J.
Galveston, Texas
Durham, N. C.
Miami, Fla.
Wilmington, N. C.
Fanwood, N. J.
Charlotte, N. C.
Bala-Cynwyd, Pa.
St. Augustine. Fla.
Gastonia, N. C.
Tampa, Fla.
Tampa, Fla.
St. Petersburg, Fla.
St. Louis, Mo.
St. Petersburg, Fla.
Houston, Texas
Durham, N. C.
Miami, Fla.
Durham, N. C.
Park Ridge, Ill.
Durham, N. C.
W. Palm Beach, Fla.

Hudson, N. C.
Pine Bluff, Ark.

Hogue, Ann Carol
Hooks, Mary Milburn
Houck, Margaret Ann
House, Mary Elizabeth
Hunt, Nancy Maxine
Hurst, Elizabeth June
Hutchinson, Madeline H.
Imler, Ruthann
Johnson, Virginia May
Jones, Jo Ann
Kane, Harriet Dickey
Kenyon, Elizabeth
Kinnikin, Janice Jeannette
Kiser, Bobbie Jo
Knight, Virginia Frances
Knott, Sarah Ann
Kyle, Helena Dutton
Lee, Diane Baylor
Leeper, Doris Marie
Lenning, Dorothy Ann
Levering, Mildred Carolyn
Lindsey, Love Loureen
Linthicum, Leatrice Joyce
Lockhart, Mary Jane
Lombard, Nancy Marion
Long, Myrtle Elaine
Lourie, Betty Brody
Lunger, Marian L.
Lydon, Elizabeth Ann
Mairs, Susan McConnel
Markwell, Patricia Ruth
Martin, Norma Louise
May. Barbara Watkins
McAlister, Patricia Maybelle
McBride, Jacqueline Faye
McCormic, Joyce
McDonald, Mary Alice
Mc Elrath, Mary Jane
McLawhorn, Madge Gay
McMullan, Anne Skinner
McMullan, Mary Freeland
McNamee, Julia Patricia
Miffleton, Ardenia Laurie
Mitchell, Mary Jones
Mix, Nancy
Montgomery, Shasta Novelline
Morrell, Mona Lea
Morse, Carolyn Beeson
Moseley, Katharine Templeton
Moser, Rebecca Boone
Moyer, Jean Arlene
Mund, Margaret Eileen
Murdoch, Evelyn Janet
Nance. Ruth Myers
Newburn, Nancy Ruth
Newman, Jeannine
Olds, Marjorie Louise
Olive, Patsy Branch
Ontrich, Beryle Leslie
Paddock, Nancy Ellen
Paetzell, Dorris Marie
Palmer, Ainslic Louise
Park, Eileen Ora
Patton, Mildred Jones
Pentz, Joyce
Perkins, Donna Jean
Platte, Wende Jane
Plummer, Beatrice Choate
Praeger, Elinor
Prestwich, Jane
Procter, Elizabeth Marriott
Prosser. Sally Madeline
Pugh, Winifred Jean
Quillian, Harriet Sandeford
Reid, Jean Allan
Richards, Deion
Roesch, Sibylle Diane
Ross, Jean Shirley
Ross, Jeanne Carol

Atlanta, Ga.
Covington, Va
Roanoke, Va.
Atlanta, Ga.
Lexington, N. C.
Winchester, Va.
Washington, D. C.
Tulsa, Okla.
McKeesport, Pa.
Marion, Ind.
Kingsport, Tenn.
Gainesville, Ga.
Arlington, Va.
Albemarle, N. C.
Erie, Pa.
Burlington, N. C.
Lexington, Ky.
Winston-Salem, N. C.
Charlotte, N. C.
Dayton, Ohio
Haddonfield, N. J.
Ocala, Fla.
High Point, N. C.
Durham, N. C.
Summit, N. J.
Hurdle Mills, N. C.
Durham, N. C.
Huntington, W. Va.
Cranford, N. J.
Charleston, W. Va.
Louisville, Ky.
Union, N.J.
Burlington. N. C.
Washington, Pa .
Rural Hall, N. C.
Rowland, N. C.
Durham, N. C.
Sandersville, Ga.
Winterville, N. C.
Edenton, N. C.
High Point, N. C.
Jacksonville, Fla.
Petersburg, Fla.
LaGrange, N. C.
Greenwich, Conn.
Washington, D. C.
Roxboro, N. C.
Swarthmore, Pa.
Kinston, N. C.
Gastonia, N. C.
Oteen, N. C.
Washington, D. C.
Camp Butner. N. C.
Charlotte, N. C.
Sarasota, Fla.
Charlotte, N. C.
E. Grand Rapids, Mich.

Durham, N. C.
Washington, D. C.
St. Louis, Mo.
Chicago, Ill.
Chicago, Ill.
Johnstown, Pa.
Durham, N. C.
DuBois, Pa.
Winston-Salem, N. C.
Upper Montclair, N. J.
Atlanta, Ga.
Washington, D. C.
Sarasota, Fla.
Raleigh, N. C.
Plant City, Fla.
Greenshoro, N. C.
Coral Gables, Fla
Charleston, W. Va.
Crestview, Md.
Bronxville. N. Y.
Sanford, Maine
Jacksonville, Fla.

Sanders, Mary Alice
Saul, Nancy Louise
Schermerhorn, Jennette Ives
Schneider, Joan Kathryn
Schreiner, Ruth Irene
Schrider, Jane Louise
Schuler, Florence Ines
Sheffield, Fay Hammond
Sherman, Virginia Anne
Sizemore, Farish Banks
Slocum, Joanne
Smith, Issabella Chrysto
Smith, Lena Mac
smith, Rebekah Ann
Sowers, Ella Frances
Spicer, Dorothy Marye
Standard, Marian Elaine
Stebbins, Helen Yvonne
Steinmetz, Dorothy M.
Stormont, Mary Lytle
Strickland, Elizabeth Wells
Stroud, Mary Jo.
Sullivan, Emily Coy
Swiger, Julia May
Tate, Joan Foster
Thomas, Katharine Elizabeth
Thomas, Mary MacKenzie
Thompson, Ramona Dolores
Thorup, Betsy Jane
Tillett, Anne Parker
Trimmer, Mary Elizabeth
Unangst, Joanne
van Dobbenburgh, Ida
Voegelin, Joan
Waggoner, Georgianne
Wagner, Claude Marie
Walton, Eleanor Corsina
Walker, Patricia Anne
Ward, Frances Annette
Waybright, Mary Elizabeth
Webb, Mary Eleanor
Whitaker, Mary McCall
White, Phyllis
Whittle, Mary Eliza
Wiencke, Marian Louise
Wilkins, Mary Alice
Wilson, Alla Eugenia
Wilson, Carol Jean
Wood, Louise Elder
Woodall, Ann Wescott
Woodward, Consuelo Louise
Woodward, Dorothy
Woodward, Sarah Elizabeth
Wright, Patricia Hamilton
Yarin, Elaine Ruth

Houston, Texas
Charleston, S. C
Providence, R. I.
Washington, D. C
Prairie du Chien, Wis.
Toledo, Ohio
Ormond Beach, Fla
Atlanta, Ga .
Ft. Lauderdale, Fla.
High Point, N. C.
Birmingham, Ala.
Birmingham, Ala.
Clover, S. C.
Lexington, N. C.
Concord, N. C.
Durham, N. C.
Bronx, N. Y.
Darien, Ga.
Brookline, Mass.
Evanston, Ill.
Atlanta, Ga.
Jacksonville, Fla
Anderson, S. C.
Clarksburg, W. Va.
Washington, D. C.
Silver Spring, Md.
Burlington, N. C.
Jacksonville, Fla.
Wellesley Hills, Mass.
Durham, N. C.
Nanking, China
Nazareth, Pa.
Enka, N. C.
Chicago, Ill.
Ravenna, Ohio
New York, N. Y.
Margate, N. J.
Durham, N. C.
Elizabeth City, N. C.
Charleston, W. Va.
Miami Beach, Fla.
Durham, N. C.
Palmerton. Pa.
Brunswick, Ga.
East Orange, N. J.
Sanford, N. C.
Danville, Va.
Erie, Pa.
Bradenton, Fla.
Warrenton, N. C.
Parkersburg, W. Va.
Raleigh, N. C.
Columbus, Ga
Rosemont, Pa .
Brooklyn, N. Y.

## Senior Class

Suffolk, Va.
Orlando, Fla.
Palm Beach, Fla
Montclair, N. J.
Bloomfield, N. J.
Jacksonville, Fla
Raleigh, N. C.
Atlanta, Ga.
Maplewood, N. J.
Delray Beach, Fla
McLeansville, N. C.
Durham, N. C.
Orlando, Fla.
Chattanooga, Tenn.
Toronto, Ontario, Canada
Charlotte, N. C.
Bluefield, W. Va
Shaker Heights, Ohio
Nashville, N. C
Birmingham, Ala.
Evanston, Ill.

Bowers, Ruth Elizabeth
Bracken, Nancy Anne
Brady, Barbara Elaine
Brash, Patricia Edna '
Braton, Mary Lou
Brose, Constance Clayton
Brown, Elizabeth Jean
Burns, Joan Arlene
Callaham, Betty Elgin
Callihan, Betty Carolyn
Caveness, Betty Jean
Childers, Carolyn Jean
Chivers, Jane Carter
Coleman, Elizabeth Heath
Collins, Patricia Ann
Collins, Roland Castex
Conner, Ellen Young
Cooper, Helen Janet
Cox, Mary Annelle
Cromer, De Witt Bynum
Crook, Cordylia
Crum, Patricia
Cruthers, Barbara Alice
Culbreth, Mary Helen
Davidson, Florence Hickman
Davis, Ann
Dawes, Mary Josephine
Deaton. Peggy Jane
DuBerger, Lorraine Avis
Dundas, Elgiva Ruth
Eckert. H. Barbara Bastec
Edwards. Lucinda
Elmore, Isabel Josselyn
Evans, Patricia Suzanne
Farrington, Nancy
Ferrell, Elizabeth Harris
Finley, Frances Fay
Finter, Mary Fae
Fisher, Lucia Elodia
Flanders, Luck Coleman
Franklet, Margaret Louise
Frazee, Mildred Evelyn
Freedman, Doris Jeanette
Friend, Barbara Maynard
Gano, Sarah Ann
Garnett, Ellen Marshall
Gerber, Beverly Janice
Glaze. Doris Jorgensen
Glenn. Jean Claire
Glover, Marion Lee
Goode, Isolee Gile
Gramling, Mary Josephine
Green, Constance Clar
Habenicht, Betty May
Hagerty, Mary Leffelman
Hale, Mary Badger
Hanson, Lorelei
Harkey, Mary Mincey
Harlow, Ann Katharine
Harris, Martha Catherine
Harrison. Elizabeth Kutz
Haynes, Virginia
Heard, Diana
Helseth, Emily Ananda
Hendricks, Joyce
Henninger. Catherine Grace
Hillsley, Margaret Trevenning
Hinson, Margaret Ferrell
Hobbs, Lois Dean
Holland. Nancy York
Hooker, Nancy Bonner
Horton, Mary Moore
Huchington, Eurlene Virginia
Hull, Jean
Hutton, Jeanne Marie
Huyler, Phyllis Cynthia
Ingwersen, Mary
Ivey, Mary Clare
Izlar, Ellen Ross
Jackson, Mary Isabel

Bristol, Tenn
Ocala, Fla
New York, N. Y.
Gulfport, Miss.
Huntington Woods, Mich.
Yonkers, N. Y
Ciudad Trujillo, Dom. Rep.
Pittsfield, Mass.
Honea Path, S. C.
Ashland, Ky.
Raleigh, N. C
Huntington, $\mathbf{W}$. Va.
Baldwin, L. I., N. Y.
Macon, Ga .
Cincinnati, Ohio
Kinston, N. C.
Parkersburg, W. Va
West Orange, N. J.
Atlanta, Ga .
Winston-Salem, N. C.
Toledo, Ohio
Durham, N. C.
West Englewood, N. J.
Durham, N. C.
Washington, Va.
Roanoke, Va.
Rome, Ga.
Charlotte, N. C.
Concord, Mass.
Southern Pines, N. C.
Durham, N. C.
Washington, N. C.
Sheffield, Ala.
Scranton, Pa .
Thomasville, N. C.
Durham, N. C.
Roanoke, Va.
Washington. D. C.
Manhassett, L. I., N. Y.
Swainsboro, Ga.
Bradenton, Fla.
Barnegat, N. I.
Durham, N. C.
Chattanooga, Tenn.
Ft. Thomas, Ky.
Birmingham, Ala.
Barrington, R. I.
Kew Gardens, L. I., N. Y.
Washington, D. C.
Maplewood, N. J.
Charlotte, N. C.
Gadsden, Ala.
Huntington, W. Va.
Columbia, S. C.
Sumter, S. C.
Macon, Ga.
Geneva, Ill.
Charlotte, N. C.
Bridgeport, Conn.
Elkin, N. C.
Fayetteville, N. C.
Jacksonville, Fla.
Gulfport, Miss.
W. Palm Beach, Fla.

Silver Spring, Md.
Allentown, Pa.
Philadelphia, Pa.
Charlotte, N. C.
Pittsburgh, Pa.
Franklin, Va.
Durham, N. C.
Concord, N. C.
Lakeland, Fla.
Jacksonville, Fla.
Hickory, N. C.
Floral Park, L. I., N. Y.
Middletown, Ohio
Charlotte, N. C.
Winston-Salem, N. C.
Williamsport, Pa.

James, Eleanor Micheaux
Johnson, Beatriz Amparo
Johnson, Elaine Bernice
Jones, Margaret Griffith
Kellam, Anne Goffigan
Kelley, Jean Elizabeth
Kern, Marion Louise
King, Betty Davis
King, Lucinda Margaret
Kirk, Jane Scaver
Korstian, Grace Catherine
Latty, Eunice Beulah
Lawrence, Frances Elaine
Lewis, Doris Helen
Lewis, Mary Anne O'Rourke
Lipscomb, Imogene Fay
Lovejoy, Virginia
Ludwig, Charlotte Maxine
MacKenzie, Martha Harris
Maier, Wanda Katherine
Malkasian, Sally Frances
Mapp, Elizabeth James
Marvin, Corinue
Mathews, Joyce Covert
Matlock, Inez Burrum
Maxfield, Mary Ann
McCuiston, Erdmuth Dorothea
McDaniel, Beverly Ann
McDermott, Sara Carolyn
McDonald, Flora Elizabeth
McElroy. Celia Anne
Meloy, Patricia Anne
Mims, Virginia Greenlee
Mitchell, Joann
Mitchell, Margaret Elizabeth
Morse, Carolyn Frances
Mouat, Mary Elizabeth
Murray, Jean Farley
Myers, Marilyn
Myers, Martha Rose
Neely, Alice Randolph
Neumeister, Helen Louise
Osteen, Claudia Louise
Parker, Eloise Mendricks
Parker, Susan Hoge
Patterson, Sally Elizabeth
Peters, Dulcy Cynthia
Pierce, Francine Gwynne
Poteat, Barbara White-Spunner
Povejsil, Alice Joan
Pratt, Mary Louise
Propst, Frances Wilkinson
Purcell, Elizabeth Ashton
Rainey, Merle Elizabeth
Rake, Barbara Ann
Ramalho, Doris Helen
Raney, Jean
Reed, Sara Evelyn
Rees, Fay
Reid, Ann Townsend
Reid, Joan Rice
Reske, Virginia Claire
Reynolds, Mary Jo.
Rice, Marianne Lindsay
Richardson, Ann Marie.
Rosenblum, Judith Louise
Rosenman, Helen Maxine
Ryan, Mary Josephine
Sampley, Annelle
Sanders, Gertrude Nelson
Sanner, Avie Mav
Saunders. Jean Marilyn
Seaberg, Miary Elizabeth
Seely, Naomi Ruth
Shipton, Lois Ann
Slaughter, Madge Rayle
Smisson, Frances Nell
Smith, Anna Lee
Smith, Betty Gene

Greenville, N. C
Leesburg, Fla.
Pensacola, Fla.
Culpeper, Va.
Princess Anne, Va.
Suffolk, Va.
Merrick, L. I., N. Y.
Washington, D. C.
Baltimore, Md
Keene, N. H
Durham, N. C.
Florence, S. C.
Germantown, N. Y.
Carlsbad, N. M.
Durham, N. C.
Durham, N. C.
Winchester, Mass.
Elkin, N. C
High Point, N. C.
Chicago, Ill.
Longmeadow, Mass.
Buena Vista, Va
Washington, D. C.
St. Petersburg, Fla.
Gallatin, Tenn.
Lake Charles, La
Winston-Salem, N. C
Durham, N. C.
Lansdowne, Pa.
Durham, N. C.
Okmulgee, Okla
Louisville, Ky.
Memphis, Tenn.
Salisbury, Md.
Birmingham, Ala.
Atlanta, Ga.
Birmingham, Ala.
Plymouth, Mich.
Washburn, Ill.
Durham, N. C.
Birmingham, Ala.
River Forest, Ill.
Rockingham, N. C.
Durham, N. C.
Mt. Pleasant, Tenn.
Chevy Chase, Md.
Scarsdale, N. Y.
New Rochelle, N. Y.
Pittsburgh, Pa.
Shaker Heights, Ohio
Sumter, S. C.
Concord, N. C.
Huntington, W. Va.
Fayetteville, N. C.
Philadelphia, Pa.
Flemington, N. J.
Arlington, Va.
Charlotte, N. C.
Richmond, Va.
St. Augustine, Fla.
Raleigh, N. C.
Chicago, Ill.
Ft. Myers, Fla.
Dyersburg, Tenn.
Star. N. C.
New York, N. Y.
Wilmington, N. C.
High Point, N. C.
Stuart, Fla.
Murfreesboro. Tenn.
Clarksville, Md.
Paris. Kv.
Tenafly, N. J.
Durham, N. C.
Pittsfield. Mass.
Orlando, Fla.
Fort Valley, Ga.
Raleigh. N. C
Greenville, S. C.

Smith, Ethel Beverly
mith, Lydia Allison
Snell, Shirley May
Sommer, Sylvia Ann
Soo, Kitt Wan
Spears, Sara McWhorter
Steiner, Golde Joan
Stewart, Catherine Grier
Stewart, Gertrude Theresa
Stewart, Mary N. King
Streicher, Marjorie Mary
Suggs, Jane Estelle
Sutton, Anne Vaughan
Talbot, Geane Dolores Talbot, Mary Castleman Taylor, Grace Elizabeth
Taylor, Nancie Jane
Tennent, Louise Cooper
Terry, Nyle Brug
Tucker, Polly Bradshaw
Tuttle, Kathryn Mims
Tyler, Marjorie Ann
Van Houten, Barbara Jean
Welland, Mary Louise
Weith, Evelyn Frances
Wharton, Katherine Mario
White, Emily Jennings
Whitmore, Mary Ellen
Wilks, Marilyn Louise
Williams, Anne St. Clair
Williamson, Clara Eugenia
Wilson, Margaret Blizard
Wolf, Anna Hermine
Womble, Barbara
Wood, Judith Ann
Zahner, Jane Logan
Zarnick, Florence Anne

Adams, Nancy Murphy
Adams, Ruth M.
Alderman, Rebecca
Anderson, Marjorie Goff
Anderson, Mary Lloyd
Arey, Margaret Bernadine
Arrowood, Katheryn
Atchison, Doris Teague
Auter, June Madeline
Baker, Betty Hinton
Barnes, Evelyn Watkins
Barringer, Amerylis
Baynes, Julia Belle
Beachan, Marian Beverly
Bennett, Grace Reed
Bercovits, Mary C.
Berry, Mary Frances
Billings, Celeste Mullen
Bitting, Mary Elizabeth
Black, Alice Elizabeth
Brabham, Ann Mildred
Bray, Dorothy Elizabeth
Bruton, A. Ruth
Burnham, Carol Jean
Burrow, Betty Bell
Butler, Dorothy Jean
Byatt, Patricia
Cameron, Vernelle
Carson, Kyle
Carson, Lenna
Carter, Naomi Ruth
Carty. Leona
Carver, Elizabeth
Cassel, Carol Isaacson
Causey, Eva Colleen
Clegg, Elizabeth Douglas
Cobb. Mary Bernice
Connor, Otelia Cunningham
Cooper, Anna Jane

Spartanburg, S. C
Newark, N. J.
Richmond, Va
Crawfordsville, Ind.
Perak, Malaya
Chapel Hill, N. C.
Richmond,Va.
Charlotte, N. C.
Omaha, Neb.
Charlotte, N. C.
High Point, N. C.
Durham, N. C.
DeLand, Fla.
Ocean City, N. J.
London Bridge, Va.
Roanoke Rapids, N. C.
Shaker Heights, Ohio
Houston, Texas
Cleveland Heights, Ohio
Erwin, Tenn.
Durham, N. C.
Birmingham, Ala.
Hopewell, Va
Coral Gables, Fla.
Caldwell, N. J.
Ft. Lauderdale, Fla.
Elizabeth City, N. C.
Norfolk, Va.
Manhasset, L. I., N. Y.
Durham, N. C.
Durham, N. C.
Arlington, Mass.
Charlotte, N. C.
Durham, N. C.
Salisbury, Md.
Durham, N. C.
Newark, N. J.
Special Students
Durham, N. C.
Truman, Mirtn.
Norfolk, Va.
Durham, N. C.
Durham, N. C.
Harrisonburg, Va.
Barium Springs, N. C.
Haley ville, Ala.
New York, N. Y.
Carthage, N. C.
Durham, N. C.
Durham, N. C.
Hurdle Mills, N. C.
Savannah, Ga.
Milford, Del.
New York, N. Y.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Johnson City, Tenn.
Winnsboro, S. C.
Elizabeth City, N. C.
Thomasville, N. C.
Durham, N. C.
Bristol, Tenn.
Sardis, Miss.
Union, N. J.
Sanford, N. C.
Falling Spring, Va.
Bluefield, W. Va.
Kannapolis, N. C.
Ridgefield, Wash.
Durham, N. C.
Durham, N. C.
Washington, N. C.
Durham, N. C.
Windsor, N. C
Durham, N. C.
Mt. Williams. Va.

Croom, Bobbie Jane
Day, Betty
DeYoung, Mary Lee Hodges
Dieffenbach, Ann Caroline
Drummond, Marilyn R.
Farmer, Clara Mildred
Fawcett, Barbara Allen
Ferguson, Elizabeth Shanley
Flinchum, Jennie Arnold
Floyd, Marian Anita
Franck, Martha Lawhorn
Galloway, Olive
Gambill, Frances Elizabeth
Gardner, Beatrice Ina
Gatlin, Jean Miller
Gilchrist, Lucy Caroline
Gilliland, Nancy
Goggin, June
Goodman, Joyce Spiegel
Goodrum, Margaret L.
Harrison, Gladys Virginia
Hedrick, Betty Sue
High, Margaret Anne
Hilton, Grace Lorraine
Hoover, Faith
Humphrey, Alice Neill
Huneycutt, Alberta Piner
Insley, Sarah Elizabeth
Johnson, Kathryn White
Iohnson, Mary Ann
Tohn. Nancy Sue
Kennedy, Tessie Colley
King, Frances Lohr
Langford. Hope
Lavin, Natalie Brewster
Lee, Ethel Romines
Leonard, Myrtle F.
Lewis, Irvin Woltz
Luther, Dorothy Carolyn
Lutz, Anne
Lynn, Mary Gilbert
Mason, Mary Jane
McDonald, Annie Minton
McKinnon, Doris Lee
Melton, Velma
Melvin, Margaret
Miller, Jacqueline Davies
Miller, Margaret Elizabeth
Miller. Margaret Emma
Moll, Mary Lou
Moody, Frances
Moorhouse, Ann Morgan
Moss, Elsie Gertrude
Moulton. Susanne Lynas
Muller, Dorothy Rice
Murray, Margaret B.
Parker, Athelle Coleman
Parker, Della Viola
Parker, Winifred
Patton, Arline Rose
Petrea, Margaret Lyerly
Phillips, Dorothy Leigh
Pierce, Mamie Violet
Powell, Roberta Ann
Prevatt. Sara Carolyn
Proto, Theresa
Purkall, Maude Ella
Putnan, Elizabeth Jean
Rainwater, Julia
Reece, Patricia Ann
Reese, Eva Oldham
Renn, Lydia S.
Richards, Martha
Richardson, Gene Stevens
Richardson, Juanita Grace
Rider, Annette Spiegel
Rollins. Mozette Riggsbee
Rupp. Barbara Anna
Russell, Kathryne

Mullins, S. C.
North Charleston, S. C.
Belhaven, N. C.
Lopez, Pa.
North Andover, Mass.
Lansing, N. C
Durham, N. C.
Kirkwood, Mo
Durham, N. C.
Winter Park, Fla.
Durham, N. C
Lakeland, Fla.
Elkin, N. C.
Durham, N. C.
Bayboro, N. C.
Darlington. S. C.
Laurens, S. C
Toledo, Ohio
Durham, N. C.
Cornelius, N. C.
Newport News, Va.
Lexington, N. C.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Durham, N. C.
Baltimore, Md
Durham, N. C.
Henderson, N. C
Winston-Salem, N. C.
Durham, N. C.
Durham, N. C
Emporia. Va.
Durham, N. C.
Washington, D. C
Durham, N. C
Lynchburg, Va.
Miami, Fla.
Baltimore, Md.
Meridian, Miss.
Freehold, N. I.
Palmyra, N. C.
MIt. Gilead, N. C.
Liberty, S. C
Jacksonville, Fla.
Hazleton, Pa.
Waynesboro, Pa.
Aberdeen, N. C.
Norristown, Pa .
Durham, N. C.
Durham, N. C
Emporia, Va.
Hillsboro, N. C.
Durham, N. C.
Covington, Va.
Buie's Creek, N. C.
Ellisville. Miss.
Raleigh, N. C.
Hollidaysville, Pa.
Rural Hall. N. C.
Durham, N. C
Apex, N. C.
Raleigh, N. C.
Wilmington, N. C.
New Haven, Conn
Augusta, Ga.
Oil City, Pa.
Cheraw, S. C.
Winston-Salem, N. C.
Durham, N. C.
Durham, N. C.
Columbus, Ga.
Eustis, Fla.
Orrum, N. C.
Farmingdale, N. Y.
Durham, N. C.
Reading, Pa.
St. Louis, Mo.

Russell, Martha Green
Rutherford, Ann Martin
Rutledge, Grace Ellen
Sandstrom, Oma Louise
Scott, Martha Ellen
Shaw, Barbara Jane
Shingleton, Jane Bruce
Shope, Barbara Rae
Shosterman, Ethel
Silverman, Ruth Cotten
Slaven, Katharine Hooper
Small, Carolyn
Spach, Cecelia Goodson
Stabile, Katherine Elo
Stearns, Doris Fales
Sumrell, Dorothy Mae
Swanson, Frances Vernon
Thornton, Mary Ruth
Tilley, Katherine Estelle
Touby, Marion
Trent, Mary Biddle
Van Cleve, Patricka
Wilder, Ilene Brown
Wilkerson, Ruth E:
Wilson, Miriam Alida
Winegeart, Sallie Ann
Winslow, Esther
Wright, Barbara Jeanne
Zitner, Donna A.

Lookout Mountain, Tenn.
Charleston, W. Va.
Talladega, Ala.
Daytona Beach, Fla.
Durham, N. C.
Nutley, N. J.
Palatka, Fla.
Des Moines, Iowa
Lynn, Mass.
Durham, N. C.
Williamson, W. Va.
Lancaster, S. C.
Winston-Salem, N. C.
Tampa, Fla.
Wilmington, N. C.
Chicod, N. C.
Durham, N. C.
Knoxville, Tenn.
Mt. Airy, N. C.
Miami, Fla.
Durham, N. C.
Honolulu, Hawaii
Durham, N. C.
Durham, N. C.
Wilmington, Del.
Jacksonville, Fla.
Belvidere, N. C.
McKenzie, Tenn.
Brooklyn. N. Y.

# THE GRADUATE SCHOOL OF ARTS AND SCIENCES 

## Academic Year 1949-50

Abbot, William Wright, III, A.B. (University of Georgia), History, Louisville, Ga. Adams, Henry Bethune, A.B. (University of North Carolina), Psychology, Lenoir, N. C. Agouridis, Savas Christos, Diploma (University of Athens), Religion, Athens, Greece. Alford, Cecil Wylie, B.A., M.A. (Texas Christian University), Sociology, Ft. Worth, Texas.
Allen, Ray Maxwell, B.A. (Southwestern College); B.D. (Duke Divinity School), Religion, Memphis, Tenn.
Allen, William Francis, B.S. (Cornell University), History, Salisbury. Md.
Allen, William Richard, B.A. (Cornell College), Economics, Chicago, Ill.
Anderson, Donald Kennedy, Jr., B.A. (Yale University) ; M.A. (Northwestern University), English, Evanston, Ill.
Anderson, Norman Gulack, A.B., A.M. (Duke University), Zoology, Minneapolis, Minn.
Anderson, Roy Stuart, A.B. (Clark University); A.M. (Dartmouth College), Physics, Agawan, Mass.
Armstrong, Florapearl, B.S. (University of Chattanooga), Biochemistry. Lookout Mountain, Tenn.
Armstrong, Henry Eugene, B.A. (University of Florida), Political Science, Jacksonville, Fla.
Atchison, Ray Morris, A.B. (Howard College), M.A. (George Peabody College), English, Birmingham, Ala.
Austin, Tollie Edward, Jr., A.B. (Duke University), Education, Portsmouth. Va.
Babington, Wallace Kent, A.B. (Centenary College), Religion, Longhurst, N. C.
Bailey, Jep Harmon, B.S. (The Citadel), Physics, Charleston, S. C.
Bailey, Ruby May, B.A. (University of Chattanooga); M.K.E. (Duke Divinity School), Religion, Bessemer City, N. C.
Ball, Carroll Raybourne, B.A., M.S. (University of Mississippi), Zoology, Montrose, Miss.
Barger, Ben, A.B. (George Washington University), Psychology, Durham, N. C.
Barlow, John Alfred, A.B. (Oberlin College), Psychology, Mexico D.F., Mexico.
Barnes, Robert Drane, B.S. (Davidson College), Zoology, Greensboro, N. C.
Barnes, Wallace, A.B. (Duke University), Political Science, Stewartstown, Pa.
*Barrett, Joseph Robert, A.B. (University of North Carolina), Education, Durham, N. C. * Special stuadent.

Barry, Richard Schriver, A.B. (Franklin and Marslall College), History, Brighton, Mass. Bates, William Wannamaker, Jr., B.S. (The Citadel), Chemistry. Camden, S. C.
Batson, Wade Thomas, Jr., B.S. (Furman University) ; A.M. (Duke University), Botany, Marietta, S. C.
Bayless, Philip Leighton, A.B. (Oberlin College), Chemistry, Muncie, Ind.
Beatson, James Allen, A.B., A.M. (Duke University), History, Manning, S. C.
Bebout, Donald Edward, B.S. (Case Institute of Technology), Physics, Boca Raton, Fla.
Bellamy, Virginia Nelle, B.S. (East Tennessee State College), Religion, La Follette, Tenn.
Bennett, William Leffis, B.A. (Wake Forest College), History, Shalotte, N. C.
Birge, William Root, A.B. (Princeton University), Psychology, Northampton, Mass.
Blackshear. Katherine. B.A. (University of Georgia), Romance Languages, Atlanta, Ga.
Blakely, Florence Ella, A.B. (Presbyterian College); B.S. in L.S. (George Peabody College), History, Clinton, S. C.

Blake, Robert Charles, A.B. (Swarthmore College), Psychology, Fort Wayne, Ind.
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Sexton, Kenneth B. (North Carolina State College), Enfield, N. C.
Sharpe, Lauren R. (Wake Forest College), Garner, N. C.
Shepherd, Douglas N. (Duke University), Huntington, W. Va.
Sherbert, Lloyd L. (University of Houston), Houston, Texas.
Siple, Clair D. (Manchester College). Argos, Ind.
Smith, William P. (Wake Forest College), Graham, N. C.
Snyder, Walstein W. (Elon College), Burlington, N. C.
Squires, Donald M. (Fairmont State College), Fairmont, W. Va.
Statler, Earl G. (S. E. Missouri State College), Millersville, Mo.
Stone, James K. (North Carolina State College), Durham, N. C.
Swain, David L. (Duke University). Asheville, N. C.
Swofford, Betty Hazell (Greensboro College), Walkertown, N. C.
Taylor, Eben (Wofford College), Charleston, S. C.
Taylor, Kenneth M. (Florida Southern College), Miami, Fla.
Thompson, Leslie A. (Drury College, Southern Baptist J. S.), Springfield, Mo.
Tindall, Thomas E. (Wofford College), Spartanburg, S. C.
Tucker, Charles C. (Randolph-Macon College), Annandale, Va.
Van Camp, George D. (Duke Úniversity), Southern Pines, N. C
Van Hoy, William F., Jr. (Guilford College), Yadkinville, N. C.
Waldrop, John H., Jr. (High Point College), Greenville, S. C.
Walton, Charles H. (Randolph-Macon College), Clifton Forge, Va.
Walton, Carlisle (Maryville College), Nutley, N. J.
Wang, Jao Ying (Ginling College), Nanchang, Kiangsi, China
Warner, Joseph M. G. (High Point College), Greensboro, N. C.
Warren, Clarence L. (High Point College), Clinton, N. C.
Warren, George B. (Duke University), Orlando, Fla.
Wentz, Walter A. (Elon College), Rockingham, N. C.
Wicker, Max W. (Duke University), Aberdeen, N. C.
Widenhouse. Milton G. (Catawba College), Concord. N. C.
Williams, Clarence D. (Davidson College), Tatum, S. C.
Wilson, Alvin A. (University of North Carolina), Newton, N. C.
Wilson, Kelley J., Jr. (Duke University), Carthage, Tenn.
Winegeart, Jack (Centenary College), Shreveport, La.
Withrow, Carlos O. (Anderson College). Charleston, W. Va.
Workman. Miles M. (High Point College), Thomasville, N. C.
Youngblood, William (Millsaps College), Wesson, Miss.

## SCHOOL OF LAW

## First Year

Abelson, Robert Carl (Carnegie Institute of Technology), Chattanooga, Tenn.
Alger, John Robert Franklin (Duke University), Huntington. N. Y.
Barbee, Robert Edward, Jr. (Duke University), Pittsburgh, Pa.
Barber, Harold Robert, Jr. (Duke University. University of Mississippi), Gulfport, Miss.
Berman, Elliott (Duke University, Loyola College), Houlton, Maine.
Boger, John Ray, Jr. (Duke University), Concord, N. C.
Branham, William Dennis (Duke University), Rocky Mount, N. C.
Erusher, Frederick Londis (Middle Georgia College, University of Alaska), Fairbanks, Alaska.

Byrd, James Samuel (Duke University), Marion. N. C.
Caolo. Carmine John (Pratt Institute, Concord College, West Virginia University), Brooklyn N. Y.
Carty, James Edward (Washington State College), Ridgefield, Wash.
Chambers, William Thomas (University of Georgia), Sandersville, Ga.
Chanda, Edward John (Adelphi College), Corona, Long Island, N. Y.
Chisholm, Lorenzo Dow (Duke University, Queens College), Charlotte, N. C.
Christner, Howard Hayes, Ir. (Duke University), Somerset, Pa.
Clough, John Finley, Jr. (Johns Hopkins University), Baltimore, Md.
Cohen, Mrs. Myrna Skalovsky (University of Oklahoma), Oklahoma City, Okla.
Collins, Ira Taylor. Jr. (Duke University), Kingsport, Tenn.
Cubbon, Frank Wallace, Ir. (Allegheny College), Oil City, Pa.
Dague, John Wesley, Jr. (Pennsylvania State College), Bethlehem, Pa.
Dale. Dewey Eugene (Wofford College), Spartanhurg. S. C.
Deloe, Wood McKee (Dartmouth College). Paterson, N. J.
Dudek, Wladyslaw (University of Alabama). Suffield. Conn.
Dwyer, John Andrew (Presbyterian Junior College). Whiteville, N. C.
Elkins, Robert Leloy (West Virginia Institute of Technology, Marshall College), Logan, W. Va.

Fine, Samuel Irwin (New York Üniversity), Jackson Heights, N. Y.
Folger. Fred. Jr. (Duke University), Mount Airy, N. C.
Ford, Harold Edwin (Duke University), Richmond, Ind.
Foster, Charles Arthur. Jr. (Lehigh University). Philadelphia, Pa.
Franks, Boh Allen (University of Pittsburgh), Pittshurgh, Pa.
Freeland, James Jackson (Duke University). Miami, Fla.
Fuller, Melville Weston. Ir. (University of Maryland, Úniversity of Nebraska, Duke University), Durham. N. C.
Garber, Mark Edward. Jr. (Duke University). Carlisle, Pa
Geary, John Jacoh. Ir. (Hope College), Passaic, N. I.
Gerstein, Joe Willie (Duke University). Covington. Ga.
Gillis. Wellington Albert (Üniversity of Alahama. Northwestern University), Malden, Mass.
Gilman. John Bruce, Ir. (Columbia University). White Plains. N. Y.
Graves, Ray (Washington State College), Pe Ell, Wash.
Hamer. John Hayard (Pennsylvania State College), Gihsonia, Pa
Hautamaki, Edward William (Duke University). Mass, Mich.
Henkel, Lee Hampton. Tr. (Duke University). Charleston, W. Va
Henry, John Frederick (Duke University), Morrisville. N. Y.
Hooper, Glenn Lee, Jr. (Duke University), Dunn, N. C.
Joseph, Charles Howard (University of Delaware). Georgetown, Del.
Leatherwood, James Robert (Furman University), Waynesville, N. C.
Leblanc. Cyrille Joseph (University of Massachusetts), Gardner, Mass.
Levinson, Joe Herman (Duke University). Benson. N. C.
Lewis, John R. (U'niversity of Washington). Coulee City. Wash.
Lloyd, Leonard Walter (Duke University), Rohhinsville, N. C.
Luby, Chester Jay (Liniversity of Chicago). Miami, Fla.
Marlowe, Wallace Ted (Roanoke College, University of Virginia, Marshall College), Roanoke, Va.
Messick. Turner Paul (Elon College). Burlington, N. C.
Montemuro, Frank John. Jr. (Temple University), Philadelphia, Pa.
Morgan. Everette Lee (Duke University), Salishury, N. C.
Moscou, Joseph Jay (Hohart College), New York, N. Y.
Musser, Robert Leland (Duke University), Salem, Ohio.
Myers. Jay Walter (Pennsylvania State College), Berwick. Pa.
Neureuther, Duane Emma (MacMurray College). Spring Valley. Ill.
Novick, Alphonsus Charles (Kutztown State Teachers College). Frackville, Pa.
Oldland, Robert Harry (Muskingham College). West Leisenring. Pa.
Oshiro, Robert Chosei (University of Hawaii). Wahiawa, Oahu, T. H.
Poulnot, Edwin Huger, III (Duke University). Charleston. S. C.
Propst, Clyde Luther. Tr. (Duke Universitr), Concord. N. C.
Reese, John Edward (Duke Cniversity), Berwyn, Md.
Ricketts, William Charles (Pennsylvania State College), U'tahville, Pa.
Robinson. Edward Norwood (United States Military Academy). Roseboro, N. C.
Rokos. William Jay, Jr. (Duke University), Manchester, N. H.
Samplev, Roy Chesler. Jr. (Duke University), Stuart. Fla.
Sapp, Carl Freeman (Duke University), Raleigh. N. C.
Scharf, Justin Norbert (American University), Philadelphia, Pa.
Schrier, Peter (Temple University). Athens. Pa.
Scuderi. Peter (Temple University). Philadelphia. Pa.
Seay. Thomas Waller. Ir. (Duke University). Spencer. N. C.
Seltzer, Donald Miller (North Carolina State College), Concord, N. C.
Severtson, Dale (Gettyshurg College). Frederick, Md.
Shapiro, David (Tufts College). Passaic, N. J.
Simpson. Lawrence Ruben (Duke University). Durham, N. C.
Smith, Bill Lee (Juniata College). Fayette City, Pa.
Smith, Charles Slack (Lafayette College). Easton, Pa.
Smith, Daniel Camden. Jr. (University of Pittshurgh). Pittsburgh, Pa.
Spencer, Joseph Whitney (Morris Harvey College, Duke University, Ohio State Üniver sity), Duhlin, Ohio.
Stacy, John Peter (University of Vermont), Burlington, V't.

Schrier, Robert Mills (Lafayette College), Athens, Pa.
Stott, Grady Bernell (Duke University), Bailey, N. C.
Sugarman, Alan Cecil (Duke University) Asbury Park, N. J.
Taylor, Robert Charles (Duke University), New Orleans, La.
Terry, Howard Chester (Duke University), Chicago, Ill.
Thompson, Blaine Calvin (Duke University), Cleveland Heights, Ohio.
Thompson, James Edward (Duke University), Oak Hill, W. Va.
Thompson, Richard Carroll (Lenoir-Rhyne College), Hickory, N. C.
Thornhill, Warren Ashby, III (Virginia Polytechnic Institute), Beckley, W. Va.
Upchurch, Roger Stanley (Duke University), Durham, N. C.
Van Anda, Jack Nicholas (Duke University), Durham, N. C.
Van Petten, Robert Earl (Bradley Cniversity), Washington, Ill.
Vann, Arthur (Duke University), Dunn, N. C.
Warren, James Gates (Duke University), Washington, D. C.
Weldon, Richard Thomas (Elon College), Durham, N. C.
Whitman, Joseph Atwood, Jr. (North Carolina State College), Glendon, N. C.
Willeford, Brice James, Jr. (Duke University), Kannapolis, N. C.
Williams, Donald Eugene (Muskingum College), Enon Valley, Pa.
Winter. William Oscar (Georgia Tech, Duke University), Winterville, Ga.

## Second Year

Abramson, Richard Arlen (Duke University), New York, N. Y.
Anderson, Hugh Roger (Furman University, University of Georgia Law School), Hayesville, N. C.
Barfield, James Roy (Duke University), Pikeville, N. C.
Bebout, Donald Richard (Phoenix Junior College), Washington, Pa.
Boddie, Mrs. Willie Grace Collins (Farmville State Teachers College), Durham, N. C
Booker, James Jackson (Western Carolina Teachers College, Washington University, Washington University Law School), Timberlake, N. C.
Bostwick, John Allen, Jr. (Duke University), Birmingham, Ala.
Browning, James Richardson (Duke University), Whiteville, N. C.
Caldwell, Robert Tate, Jr. (Harvard College), Ashland, Ky.
Chaffin, John Taylor (College of William and Mary, Duke University), South Mills, N. C.
Chappell, Thomas Tye (Duke University), Plainfield, N. J.
Claycomb, Charles Percival, Jr. (Western Kentucky State Teachers College), Webster, Ky.
Clement, Robert Lebby, Jr. (The Citadel), Charleston, S. C.
Comer, Charles Alexander (University of Chattanooga), Chattanooga, Tenn.
Dodge, Harold Thaddeus (Champlain College), Loudonville, N. Y.
Douglas, Richard Sands (Duke University), Westfield, N. J.
Dufour, Alfred Edmondston (The Citadel), Charleston, S. C.
Ely, William Thomas (Vanderbilt Eniversity, Murray State Teachers College), Benton, Ky.
Engelnan, Morton Henry (University of Connecticut), Middlebury, Conn.
Everett, Ned Purvis (Davidson College), Robersonville, N. C.
Fleming, James Carlton (Duke University), Martinsville, Va
Foss, George Bridges, Jr. (Birmingham-Southern College), Birmingham, Ala.
Foster, Russell D. (Bethany College), Cardale, Pa.
Free, Edgar Dauphin (Haverford College, University of Pennsylvania Law School), Philadelphia, Pa.
Glickfield, David (East Tennessee State College), Johnson City, Tenn.
Godfrey, George Franklin (Duke University), Jacksonville, Fla.
Gore, Jay, Jr. (University of Mississippi), Grenada, Miss.
Gregg, James Russell (State College of Washington), Puliman, Wash.
Grist, William Taylor (University of North Carolina, Lenoir-Rhyne College), Charlotte, N. C.

Harlem, Arnold (New York University), Brooklyn, N. Y.
Harrington, John Allen (Duke University), Merry Oaks, N. C.
Hawkins, James Robert (Duke University), Mebane, N. C.
Hiaasen, Kermit Odel (Emory University), Fort Lauderdale, Fla.
Hondulas, John Lewis (University of Tennessee), Knoxville, Tenn.
Howe, Standish Sturtevant (University of Michigan), Port Huron, Mich.
Howe, William Bell White (Duke University), Hendersonville, N. C.
Jack, Robert George (Allegheny College, Cumberland University, Ohio University), Nelsonville, Ohio.
Kanehann, William Nicholas (Columbia University), Allentown, Pa.
Klein, Frederic Milton (Tufts College), New Haven, Conn.
Koski, Henry William (Ohio Wesleyan University), Ashtabula, Ohio.
Larned, George Hambury (Rutgers University), Rutherford, N. J.
Loeser, Edward Arthur (Knox College), Galesburg, Ill.
McCoy, John Philip (Duke Cniversity), Mount Pleasant, Tenn.
McDonald, Arthur Allen, Jr. (University of North Carolina), Durham, N. C.
McKinnon, Arnold Borden (Duke University), Lumberton, N. C.
Malloy, Cormac Joseph (Elon Collegc), Philadelphia, Pa.
Marsh, John Earl, Jr. (L'niversity of Tennessee), Petersburg, Tenn.
Martin, George Wilson (Oak Ridge Military Institute, Duke Úniversity). Mocksville, N. C.
Marx, Edward Elias (Franklin and Marshall College), New York, N. Y
Mast, Everett Leo (Appalachian State Teachers College), Sugar Grove, N. C.
Millar, William Imber (Duke University), Waynesville, N. C.
Moore, Elliott L. (Duke University), Sarasota, Fla.

Morrow，George Richard（West Virginia Institute of Technology）．Forest City，N．C．
Morton，Marion Billy（Duke University），Albemarle，N．C．
Nazor，Gordon Lang（Duke University），Ashtahula．Ohio．
Olsen．Rohert Wayne（University of Michigan）．Sioux Falls，S．Dak．
Oppenheim，Alfred Martin（Duke C＇niversity），Westfield，N．J．
Orr．George Eadie（Duke University），Miami．Fla．
$0^{\circ}$ Toole，Kobert Joseph（University of Connecticut），Hamden，Conn．
Page．Robert Lionel（Duke University）．Erick，Okla．
Perlis．Marvin Elliott（New York Čniversity），Kew Gardens．L．I．，N．Y．
Pcrry，James Franklin（Michigan State College），Lansing，Mich．
Pierce，John Everett，Jr．（Duke Cniversity，University of Florida），Daytona Beach，Fla
Rahin，David（Duke U＇niversity）．Carrhoro．N．C．
Rickman，William Millender（Duke University），Asheville，N．C．
Rosenherg．Frederick Dietrick（Hamilton College），Binghamton，N．Y．
Russell，Howard Mills（University of California at Los Angeles），Wilmington，N．C．
Sands．George Lewis（Duke University）．Wilmington，Del．
Scott．James Allen（Duke L＇niversity）．Concord，N．C．
Shell，Vernon Melvin（Furman Lniversity），Greenville，S．C．
Simmons．Roy Glen（Oherlin College）．Manahawkin，N．J．
Smith，Herman Amasa（Duke Lniversity，University of North Carolina Law School Chapel Hill， $\boldsymbol{N}$ ．C．
Smith，Milly Roherts（Duke University），Murfreesboro．Tenn．
Spence，Charles Wilsor（Duke Cniversity）．Clayton，ズ．C．
Stearns．Donald Mosure（Otterhern College）．Lima，Ohio．
Steed．Wilton Ernest（Arkansas State Teachers College），Comway．Ark．
Stevenson．William Hartin．Jr．（Presbyterian College），Sumter，S．C．
Stout．Mrs．Lina Lee Spence（Meredith College），Durham，N．C．
Styers，Rohert Lee（Duke University）．Winston－Salem，N．C．
Surratt，John Richard（University of North Carolina），Winston－Salem，N．C．
Thomaides．Theodore George（Duke L＇niversity），Washington．D．C．
Thomasson．Gecrge Butler（Davidson College），Kings Mountain，N．C．
Thomasson．James Toomhs．Jr．（West Georgia College）．LaGrange，Ga．
Thorne．John Milton（Duke University），Durham，N．C．
Villanueva．Charles Edward（Duke C＇niversity）．Orange，N．J．
Hilliamson，Edward Lorenza（W̌ake Forest College），Cerro Gordo，N．C．
Wright．James Victor（Duke University）．Java．Va．
Zwanetz，David（Temple U＇niversity），Philadelphia，Pa．

## Third Year

Adams．Richard Ammon（Gettysburg College），Pine Grove．Pa．
Adams．William Hester，III（Duke University），Atlantic Beach，Fla．
Alexander，Arthur Lee（Duke University），Lehanon．N．J：
Barhee．Charles Wesley，Jr．（Duke U＇niversity）．Durham．N．C．
Baumgartner，Edgar Davidson（Duke University），Hillburn，ぶ，V．
Beltman，Laurence John（Hope Colleze）．Goldshoro．N．C．
Bittle，Claude Ehresmann（Duke University），Madisonville．Ky．
Bivins．Stephen Thomas（Cornell University）．Milledgeville，Ga．
Boone，William Gardner．Jr．（Duke University），Memphis，Tenn．
Briggs．Ranald C＇rton（Duke University），Dayton，Ohio．
Brown．Bachman Storch．Jr．（Duke（niversity）．China Grove，N．C．
Cameron，William Roy．Jr．（Duke University），Indiana，Pa．
Cate．James Gus Jr．（Lniversity of the South）．Cleveland．Tenn．
Clifford，Robert Lance（Lehigh University）．Ramsey，N．J．
Clontz，Ralph Clayton，Ir．（Davidson College）．Charlotte，N．C．
Cole．Winslow Warren．Jr．（Miami University）．Daytona Beach，Fla．
Coleman，John James．Jr．（Duke University），Birmingham，Ala．
Collister，Cameron（University of Pennsylvania），Parma Heights，Ohio．
Cooper，Robert Irwin（Brooklyn College，University of California．Stanford University Law School．University of San Francisco Law School），Perkeley，Calif．
Cross，Ray Y．（Duke University）．Albany，Ga．
Dooley，Lawrence Mermier（The Citadel），New Haven，Conn．
Fraser．Donald Henderson（Wofford College）．Walterboro．S．C．
Fullerton．Bushnell（Bucknell University），Barrington，Ill．
Gardner．Rohert Randolph（Duke Lniversity），Columhia，Tenn．
Grav．Arhor William（U＇niversity of L゙tah，Duke University）．Salt Lake City，U゙tah，
Griffin，Charles Franklin（University of North Carolina）．Monroe，N．C．
Grogan，Roy Joe（North Texas Agricultural College．Weatherford College），Weatherford， Texas．
Cowyn，Allen Hatchett，Ir．（Duke University），Reidsville．N．C．
Hadlow，Earl Bryce（Duke Cniversity），Greenville，S．C．
Hamlin．Guy Andrews（University of Vermont）：Brushton，N．Y．
Hart，Thomas George，Jr．（Duke C＇niversity），West Hartford，Conn．
Hodson，Thomas Sherwood，III（Duke University，University of North Carolina），Hender－ sonville，N．C．
Holloman．Charles Rohert（Western Carolina State Teachers College），Kinston，N．C．
Holloway．Fuller（Duke Universityo），Durham，N．C．
Knudsen，Arthur Knute，Jr．（Michigan State College），Lansing，Mich．
Lawton，Thomas Oregon，Jr．（Duke University），Fairfax，S．C．

Lim, Kwan Hi (University of Hawaii, Boston College Law School), Honolulu, Hawari.
Lloyd, Robert Blackwell, Jr. (Harvard University), Greensboro, N. C.
McClain, Oren Walsh (Otterbein College), Middletown, Ohio.
McCown, Mrs. Annie Sue Vick (Greensboro College), Durham, N. C.
Marks, Edwin Robert (Bucknell University), Danville, Pa.
Max, Henry Leo (Marshall College), Huntington, W. Va.
Mervine, William David (Williams College), Phoenixville, Pa.
Osborne, Wallace Sherrill (Clemson A \& M College, Clarion State Teachers College, Duke University), Charlotte, N. C.
Pace, Fred Charles (Duke University), Shenandoah, Pa
Patterson, William Robert (Lenoir-Rhyne College), Hickory, N. C.
Philipp, Albert Ernest, Jr. (Duke University), Bogota, N. J.
Pingree, Hedley Gordon (University of New Hampshire), Great Neck, L. I., N. Y.
Pino, Daniel Richard (Syracuse University), Long Island, N. Y.
Poteat, Thomas Lawton (Duke University), New York, N. Y.
Potter, Robert Daniel (Duke University), Wilmington, N. C.
Reams, Hugh Etherton (Washington and Lee University, Washington and Lee Law School), Toledo, Ohio.
Routh, John Webb (Yale University), Bronxville, N. Y.
Shannon, Charles Melvin, Jr. (Duke University), Mount Jackson, Va.
Shields, Luther Perry (Duke University), Maryville, Tenn.
St. Clair, Clifford Meade (Pennsylvania State College), Johnstown, Pa.
Stokes, Robert Fraser, Jr. (Pennsylvania State College), Clairton, Pa.
Stormes, Ben F. (Ohio University), Akron, Ohio.
Suddard, Oliver Vincent (Duke Universtiy), Newark, Del.
Vannoy, Wade Eugene, Jr. (Wake Forest College), West Jefferson, N. C.
Wachenfeld, William Thomas (Tufts College), Orange, N. J.
Wagner, Franklin Porter (Bucknell University), Danville, Pa.
Walker, Harry Clayton (Duke University), Greenville, S. C.
Watson, William Wood (Duke University), Eastham, Mass.
Wellman, John Wilson (Duke University), Wilkesboro, N. C.
West, James Arthur, Jr. (Wake Forest College), Wilmington, N. C.
Whitehead, Robert Clifton, Jr. (Duke University), San Antonio, Texas.
Williams, Daniel McGregor, Jr. (Duke University), Durham, N. C.
Wilson, Nathan Hughs (Duke University), Charlotte, N. C.
Winders. William Rudolph (Duke University), Bristol, Tenn.
Wolfe, James Boyd, Jr. (Duke University), Greensboro, N. C.

## Unclassified Students

Fisanick, Vasil (St. Francis College, Pennsylvania State College, University of Richmond Law School), Barnesboro, Pa.
Hyldburg, Carl Albert, Jr. (University of New Hampshire, Duke University), Durham, N. H.

Moy, Cornelius Bernard, Jr. (Marietta College, Duke University), Easton, Pa.
Watts, William Allen (University of North Carolina, University of Utah), Statesville, N. C.

## Graduate

Bouwsma, Otis Jacob (Calvin College, Kalamazoo College, Emory University), Emory University, Ga.
Burke, George Leonard, Jr. (North Carolina State College, Duke University). Roxboro, N. C

Conrad, Wright (Park College, Michigan Law School), Prairie Hill, Mo.
Eastwood, Roland Herbert (Ohio Wesleyan University, Duke University). Miami, Fla.
Edwards, James Medley (Presbyterian Junior College, Wingate Junior College, University of Florida Law School), Tampa, Fla.
Fischer, George Herman (Columbia Bible College, University of South Carolina, University of South Carolina Law School), Columbia, S. C.
Frantz, Laurent Brown (University of Tennessee, University of Tennessee), Durham, N. C.
Friend, Kelsey Evans (Pikeville Junior College, University of Kentucky), Pikeville, Ky.
Griffith, Brantley Boyd (Duke University), Lebanon, Va.
Helterline, Russell Manning (University of Oregon, Willamette University), Salem, Ore.
Page, John Thomas, Jr. (Wake Forest College, Duke University Law School), Rockingham, N. C.
Prothroe, John Edward (University of Toronto, University of Toronto Law School), Toronto, Ontario, Canada.
Speth, Charles Theodore (Duke University), South Temple, Pa.
Tenhet, Joseph Nesbitt, Jr. (The Citadel, University of Virginia, University of Richmond), Richmond, Va.
Touby, Richard (University of Florida, Clemson College. University of Miami), Miami, Fla.
Weeks, Arthur Andrew (Howard College, University of Alabama), Lebanon, Tenn.

## SCHOOL OF MEDICINE

## First Year

Adams, Reuben Homer, Jr. (University of Cincinnati, Southern Methodist University), Union, N. J.
Appen, Raymond Carl (Duke University), Somerset, Ky.
Ayerst, Robert Irvin (Yale University, Duke University), Connellsville, Pa.
Bacos, James Michael (Virginia Polytechnic Institute), Brooklyn, N. Y.
Baer, Bruce Lawrence (Duke University, Haverford College), Chapel Hill, N. C.
Bell, William Reed (University of Florida, University of the South), Pensacola, Fla.
Berlin, Melvin (Duke University), Savannah, Ga.
Berry, Joseph Norman (Clemson College), Charleston, S. C.
Blackard, Embree Hoss, Jr. (Duke University), Gastonia, N. C.
Bondurant, Stuart Osborne, Jr. (University of North Carolina), Winston-Salem, N. C.
Boren, Richard Benjamin, III (University of North Carolina), Greensboro, N. C.
Brice, George Wilson, Jr. (Duke University), Charlotte, N. C.
Bridges, Ronzee McIntyre (Louisiana State University, Duke University), Shreveport, La
Brockmann, John Lyndon (Universtiy of North Carolina), High Point, N. C.
Bryant, Gerald Nelson, Jr. (High Point College, University of North Carolina), Statesville, N. C.
Bullard, Lubin Fletcher, Jr. (University of North Carolina), Garland, N. C.
Butler, William Gilbert, Jr. (University of North Carolina), Laurinburg, N. C.
Caffey, John William. Jr. (Duke University), Greensboro, N. C.
Cain, Frank Coral, Jr. (Catawba College), Salisbury, N. C.
Carter, Needham Battle (Duke University), Rocky Mount, N. C.
Casto, Dorothy Louise (West Virginia University), Morgantown, W. Va.
Chick, Ernest Watson (Duke University), Durham, N. C.
Chittum, John Raymond (Wooster, Duke University), Wooster, Ohio.
Cobey, William Gray (University of Minnesota, University of the South), Louisburg, N. C.
Earley, Charles Marion, Jr. (Duke University), Norfolk, Va.
Edwards, Ian Keith (Duke University), Easley, S. C.
Evans, Eugene Micheaux, Jr. (Duke University), Durham, N. C.
Evans, William Canfield, Jr. (Duke University), Gainesville, Fla.
Fishel, John Lewis (University of North Carolina), Winston-Salem, N. C.
Flanagan, John Francis (Virginia Polytechnic Institute), Blacksburg, Va
Fogleman, Ross Lee, Jr. (Cornell University, Guilford College, Duke University), Greensboro, N. C.
Fowler, William Robert (University of North Carolina), Pilot Mountain, N. C.
Garlington. Laurens Nelson (Duke University), Birmingham, Ala.
Gibbes, Robert Walter (University of South Carolina), Columbia, S. C.
Gleason, William Lounsbery (Duke University), Daytona Beach, Fla.
Glenn, James Francis (University of Kentucky, University of Rochester), Lexington, Ky.
Hall, Kenneth Daland (Duke University), Durham, N. C.
Haworth, Sara Eldora (Guilford College), High Point, N. C.
Hicks, Julius Norton (Duke University), Enterprise, Ala.
Hillman, Charles Harlan (Virginia Polytechnic Institute), Blacksburg, Va.
Keck, Charles, Jr. (Cornell University, Duke University), New York, N. Y.
Kent, Alfred Henry (Duke University), Winter Park, Fla.
Kernodle, Donald Reid (Elon College), Elon College, N. C.
*Lawrence, Allen Franklin (University of Oklahoma), Lawton, Okla.
Lyday, William Davie (Davidson College), Gastonia, N. C.
Mabe, Paul Alexander, Jr. (Wake Forest College), Morganton, N. C.
Mabry, Edward Bloxton (Duke University), Greensboro. N. C.
McArn, Hugh Munroe, Jr. (Davidson College), Laurinburg, N. C.
McCall, John B., Jr. (University of Virginia, Duke University), Jacksonville, Fla.
McNeely, Irwin Hollar (Duke University), Morganton, N. C.
Meiselman, Rude Karmus (Brown University), Charlotte, N. C.
Metcalf, Boyd Hendren (Duke University), Chevy Chase, Md.
Niblock, Franklin Chalmers, Jr. (Oregon State College, Davidson College), Concord, N. C.
Overton, Dolphin Henry, Jr. (Virginia Military Institute), Shelby, N. C.
Parker, Mayon Vann (Duke University), Durham, N. C.
Parkerson, George Robert, Jr. (Duke University), Macon, Ga.
Pierce, Ellison Cline, Jr. (University of Virginia), Gastonia, N. C.
Pollard, Lawrence Welford, Jr. (University of South Carolina), Columbia, S. C.
Rankin, Richard Brandon, Jr. (Wake Forest College). Concord, N. C.
Rogers, William Haywood, III (University of North Carolina), Raleigh, N. C.
Roof, Anne Carolyn (University of South Carolina), Columbia, S. C.
Rosemond, Robert Malone (Duke University), Charleston, S. C.
Sager, Samuel Ott (Duke University), Danville, Va.
Somers, James Earl (North Carolina State College, University of North Carolina), Burlington, N. C.
Stickel, Delford LeFew (Duke University), Martinsville, W. Va.
Tatom, Louis (Duke University), Ft. Monmouth, N. J.
Terrell, Thomas Eugene (Guilford College), Greensboro, N. C.
Vestal, Tom Alford (University of North Carolina), Rocky Mount, N. C
Watt. Thomas Bunyan, Jr. (U. S. Naval Academy, Duke University), Hartsville, S. C.

* Withdrew, November 22, 1949.

Welcb, George Harrison, Jr. (Duke University), Anderson, S. C.
Williams, Jean Babington, Jr. (Duke University), Hendersonville, N. C.
Williams, Jesse Lee, Jr. (Harvard University, University of Florida), Jacksonville, Fla.
Winslow, Francis Edward, Jr. (Harvard University, University of North Carolina), Rocky Mount, N. C.
Woodbury, Philip Stephen (Duke University), Pearisburg, Va.
Worsham, Julius Berry, Jr. (Duke University), Ruffin, N. C.
Young, Charles Gibson (Wake Forest College), Winston-Salem, N. C.

## Second Year

Agner, Marsbal Edward (Lenoir-Rhyne College), Spencer, N. C.
Alexander, Lawrence Melton (Duke University), Lexington, N. C.
Altany, Franklin Edward (University of Mississippi, St. Vincent College), Brackenridge, Pa .
Alter, George Frederick (The Ohio State University, University of Toledo), Toledo, Ohio.
Anderson, William Henry, Jr. (Presbyterian College), West Point, Ga.
Ardrey, William Benjamin, III (The Citadel), Fort Mill, S. C.
Baldwin, Kenneth Rone (Duke University), Whiteville, N. C.
Bethany, Joe Jackson, Jr. (University of Alabama), Boligee, Ala.
Bowen, James Lamar (Duke University), Westminster, S. C.
Bowles, Richard Morgan (Duke University), Long Island, N. Y.
Brass, Phillip (New York University, Seton Hall College), Newark, N. J.
Brewer, Spencer Spainhour, Jr. (The Citadel, University of Georgia), Atlanta, Ga.
Burks, Henry Lucius (University of Texas), Tyler, Texas.
Chambers, Robert Edward (University of Oklahoma), Oklahoma City, Okla.
Chears, William Crockett, Jr. (Duke University), Charlotte, N. C.
Coggeshall, Berryman Edwards, Jr. (Duke University), Darlington, S. C.
Cooper, Frank Benton (Davidson College, University of North Carolina), Statesville, N. C.
Corpening, Joscph Durham (University of North Carolina), Granite Falls, N. C.
Cox, Howard Louis (Wake Forest College, Duke University), Jonesboro, N. C.
Davenport, Clifton (Duke University), Durbam, N. C.
David, Noble Jonathan (Duke University), Jacksonville, Fla.
Davidson, Norman William (Franklin \& Marshall College), Baltimore, Md.
Davidson, William David (Univ. of Arizona, Duke University), Los Angeles, Calif.
Frazer, Joe Walton, Jr. (Clemson College), Charlotte, N. C.
Futrell, Mary Frances (Peabody College, Univ. of Kentucky), Cadiz, Ky.
Garrett, Spencer Roberts (Alabama Polytecbnic Institute, Univ, of Miami), Columbus, Ga.
Gomez, Alphonse Charles (Dakota Wesleyan Univ., St. Louis Univ.), LaPaz, Bolivia, S. A.
Graham, Harvey Polhemus (Duke University), Pearl River, N. Y.
Hamilton, Frederick Cooper (Brevard College, Oak Ridge Military Institute, University of North Carolina), Morehead City, N. C.
Hampton, Ambrose Gonzales, Jr. (The Citadel), Raleigh, N. C.
Hartley, James Phillip (N. C. State College, Univ. of Florida), Miami, Fla.
Harvey, Wallace Weston, Jr. (Wake Forest College), Wake Forest, N. C.
Hataway, Garrett Arthur (Louisiana Polytechnic Institute, University of Texas), Atbens. Texas.
Jackson, Elizabeth Claire (Duke University), Portland, Conn.
Jeter, Robert Vernon (N. C. State College, Duke University), Raleigh, N. C.
Jones, William Bailey (Mass. Institute of Tech., Duke University), Mobile, Ala.
Kaicher, Thomas Victor (Holy Cross College), Brooklyn, N. Y.
Kawchak, James (Duke University), Johnstown, Pa.
Kimmelstiel, Ruth (Randolpb-Macon College), Charlotte, N. C.
Kindler, Jack (Duke University), Passaic, N. J.
Langley, Thomas Ellison (East Carolina Teachers College, Wake Forest College), Greenville, N. C.
Link, Robert Jeffrey (Bethany College), Uniontown, Pa.
Lourie, Herbert (Univ. of South Carolina), St. George, S. C.
Magill, Frank Bell (Univ. of Illinois, Va. Polytechnic Institute), Shanghai, China.
Marder, Gerard (Biltmore Jr. College, Univ. of North Carolina), Asheville, N. C.
McCall, Michael Alvin (Vanderbilt University, N. C. State College, U. N. C. Extension), Marion, N. C
McCarley, Ben Pushmataha (Virginia Military Institute, Southern Methodist University), McAlester, Okla.
McClung, Eugene (West Va., Wesleyan, Duke University), Beckley, W. Va.
Meyer. George Wright (Univ. of North Carolina), Chapel Hill, N. C.
Michaels, Marilyn Jean (Duke University), Gadsden, Ala.
Moody, William Alton (Clarion State Teachers College, Wake Forest College), Rockingham, N. C.
Moore, de Saussure Parker, Jr. (Univ, of North Carolina), Kingstree, S. C.
Morris, Francis Albert, Jr. (Univ. of Texas), Beaumont, Texas.
Mott, Helen Josephine Elizabeth (Custer County Junior College. Montana State College), Miles City, Mont.
Paar, James Albert (Duke University), Warren, Ohio.
Park, Charles Wilbur (Kent State, Mount Union, Ohio State), Columbus, Ohio.
Pryor, John Ray (Univ. of Louisville, Univ. of Kentucky), Mayfield, Ky.
Reed, Clark Grant (San Jose State College), San Jose. Calif.
Reinmuth, Oscar McNaughton (Univ. of Texas), Austin, Texas.

Savitt, Allen Jack (Duke University), Ansonia, Conn.
Shapiro, Lewis (Duke University), Great Neck, N. Y.
Skeen, Max Verne (Princeton University), High Rock, N. C.
Smith, George Bryan, Jr. (Duke University), Greenville, S. C.
Smith, Joseph James Lawton (Furman University, Emory University), Greenville, S. C.
Stennett, Clarence Ernest (Concord College), Princeton, W. Va.
Stewart, Edgar Bethea (The Citadel), Laurinburg, N. C.
Tahan, Naim George (Univ. of Iowa, Unir. of Arizona), Tucson, Ariz.
Travis, Burton Lester (Cornell University, Columbia University, Univ. of North Carolina), New York, N. Y.
Wallace, John Dixon, Jr. (Duke University, Alabama Polytechnic Institute, Univ. of Kentucky), Charlotte, N. C.
Wansker, Bernard Arthur (Duke Universtiy), Athens, Ga.
Warren, Donald Eugene (Florida Southern College, Washington and Lee University), Lakeland, Fla.
Wester, Millard Winston, Jr. (N. C. State College, Davidson College), Henderson, N. C.
Wolf, Robert Lawrence (Duke University), Brooklyn, N. Y.
Wright, Henry Livingston, Jr. (Alabama Polytechnic Institute, Ball State Teachers College, Spring Hill College), Mobile, Ala.
Young, Robert Ulrich (Duke University), Swannanoa, N. C.

## Third Year

Agner, Roy Augusta, Jr. (Lenoir-Rhyne College, Washington University, Catawba College), Spencer, N. C.
Austin, Charles Newton (West Virginia University, Duke University), Charleston, W. Va.
Austin. James Howard (Randolph-Macon Academy, Duke University), Valencia, Pa.
Bell, William Sterling (Schreiner Institute, Texas Christian University, Texas University), Austin, Texas.
Bledsoe, Robert Eugene (University of Mississippi School of Medicine), University, Miss.
Bivens, Thomas Walter (N. C. State College, University of North Carolina), Boydton, Va.
Blue, Willis Berton (David Lipscomb College, Vanderbilt University, Duke University), Robards, Ky.
Booker, Laurena Park (Woman's College of the University of North Carolina), Greensboro, N. C.

Brock, Julian Stanley (University of North Carolina), Rocky Mount, N. C.
Castle, Charles Hilmon (University of Mississippi School of Medicine), Pachuta, Miss.
Chase, George Oscar (University of Maine, Duke University), Millinocket, Maine.
Coggins, Deborah Ferne Reid (Florida State College for Women, University of Washington, University of Tampa, University of Florida), Tampa, Fla.
Coggins, Wilmer Jesse, Jr. (Duke University), Madison, Fla.
Coleman, Blair Pickens (The Rice Institute), Wichita Falls, Texas.
Conover, Raymond Everett (Baylor University), Neptune, N. J.
Cook, Paul Huie (Pfeiffer Junior College, Berry College, Duke University), Union Grove, N. C.

Cranford, James Abram, Jr. (Washington and Lee University), Jacksonville, Fla.
*Crowder, John Nathaniel (Duke University), High Point, N. C.
Curtis, Thomas Edwin (Oklahoma University, Southwestern University, Oklahoma University), Miami, Okla.
Daniel, Thomas Manning (Louisburg College, Duke University), Oxford, N. C.
Dimmette, James, Edwin (High Point College, University of Texas, Duke University), Laurel Hill, N. C.
Drake, David Ewing (Duke University), Knoxville, Tenn.
Easterling, John Garlick (Duke University), Rocky Mount, N. C.
Engel, Marvin Franklin (Duke University), Atlantic City, N. J.
Evans. Eugene Goldsmith, Jr. (Clemson College, Newberry College), Pendleton. S. C.
Ewy, Henry Herman (North Dakota State College, University of North Dakota Medical School), Fargo, N. D.
Fair, William Leonard (University of Missouri, University of Wisconsin, University of Missouri Medical School), Chillicothe, Miss.
Fink, Chester Walter (Duke University), Durham, N. C.
Gorsuch. Thomas Leonard (Duke University), Baltimore, Md.
Green, Paul, Ir. (Duke University), Thomasville, N. C.
Haltiwanger, Earl. Jr. (The Citadel, Emory University), Lake City, Fla.
Hanes, Kenneth Frederick (Geneva College. Mt. Union College). East Liverpool. Ohio.
Hanson, Charles Andrew (University of Michigan, Duke University). Geneva, Ill.
Hershberger, Robert LeRoy (Sam Houston State Teachers College, University of Texas), La Porte, Texas.
Hiatt, Rudger Puckett (Brigham Young University, University of New Mexico, University of Arizona), Mesa, Ariz.
Holland, Malvern Carlyle (University of South Carolina, North Georgia College, Rutgers University). Simpsonville. S. C.
Honig, Edward Irving (University of Buffalo, College of William and Mary), New York City, N. Y.
Horne, Francis Gregg (The Citadel, Duke University), Sumter, S. C.
Inman, Charles Ernest (Wake Forest College, Duke University), Fairmont, N. C.
Jackson, Beverly Joy Neely (Duke University), Atlanta, Ga.

* On leave of absence.

Jackon, Murray Threadgill, Jr. (Davidson College, Catawba College, Duke University), Kannapolis, N. C.
Jaeger, Carl Alphons (Cornell University, St. Vincent College), Greenwich, Conn.
Johnston, David Hale (North Carolina State College, Duke University), Roper, N. C.
Kandel, Robert Franklin (Duke University), Louisville, Ohio.
Lockhart, David Armistead (Tulane University, University of the South), St. Helena's Island, S. C.
Luzadre, John Hinkle (University of Pittsburgh), Sewickley, Pa.
Mandanis, John Peter (University of Athens, Wofford College), Spartanburg, S. C.
Mangum, Jack Fitch (The Citadel, Duke University), Hamlet, N. C.
McFadyen, Susan Routh (Woman's College of the University of North Carolina), Greensboro, N. C.
McGee, Harry Hand, Jr. (Ursinus College, Duke University), Savannah, Ga.
Melero, Andrés Tarcisio (University of Puerto Rico, Duke Úniversity), San Juan, P. R.
Mertz, Joanne Elizabeth (Purdue University), Logansport, Ind.
Parapid, Nicholas Vladimir (Sacramento Junior College, Catawba College), Salisbury, N. C.
*Perry, William John (Sacramento Junior College, University of California, American University), Grass Valley, Calif.
Pruett, Charles Danny (Emory and Henry College, Duke University), Bluefield, Va.
Ragland, John Elliott (Princeton University), Orange, Calif.
Remus, Luis Enrique, Jr. (The Citadel), Santurce, P. R.
Reynolds, David Hyatt (Ohio State University), Dayton, Ohio.
Rice, Alonza Douglas (Northwestern University, Concord College, West Virginia University, Duke University), Charleston, W. Va.
Schmidt, Evelyn D. (Duke University), N. Plainfield, N. J.
Schnoor, Ernest Edgar (University of California), Walnut Creek, Calif.
Sellers, Alfred Mayer (Temple University), Phlidelphia, Pa.
Shankroff, Donald Yeoman (Princeton University), Brooklyn, N. Y.
Smith, Jesse Graham, Jr. (Duke University), Asheboro, N. C.
Stanley, Gordon Douglas (University of Florida), Sanford, Fla.
Sullenberger, John William (University of Tennessee, Carson-Newman College, Duke University), Tallahassee, Fla.
Underwood, Russell Spaldon (University of Notre Dame), Waynesville, N. C.
Walker, William Freeman (Duke University), Hazlehurst, Ga.
Walters, Paul Allen, Jr. (University of North Carolina), Durham, N. C.
Warren, Joseph Benjamin (Duke University), Lenoir, N. C.
Welch, James Edward (Virginia Polytechnic Institute, Duke University), Suffolk, Va.
Wester, Thaddeus Bryan (North Carolina College of A. \& E., Carson-Newman College, Duke University), Henderson, N. C.
White, Ben Terry, II (Western Kentucky Teachers College, University of Kentucky), Cadiz, Ky.
Whitesides, Edward Steele (Davidson College, Michigan State Normal), Gastonia, N. C. Williams, Harold Lee (Duke University), Greenville, N. C.
Williams, Louis Howard (Duke University), Greenville, N. C.
Wingfield, Robert Terrell (Virginia Military Institute, Duke University), Lynchburg, Va.

## Senior Year

Anderson, Kitridge (University of Texas), Austin, Texas:
Barnes, Henry Franklin (Atlantic Christian College, University of North Carolina, Washington Square College, N. Y. U.), Elm City, N. C.
Bennett, Reginald Victor, Jr. (Duke University), Bowling Green, Ky.
Berry, James Burke, Jr. (The Citadel), Latta, S. C.
Black-Schaffer, Alice Eugenia (Barnard College, University of Richmond, Woman's Medical College), Durham, N. C.
Blake, John Ronald, Jr. (Duke University), Washington, D. C.
Blatman, Saul (Brown University), Providence, R. I.
Bosman, Robert Isaac (College of William and Mary, University of Virginia, Johns Hopkins School of Hygiene), Durham, N. C.
Boucher, William Lee (University of Utah), Salt Lake City, Utah.
Brawner, Hugh Page, Jr. (Duke University), Washington, D. C.
Bridgers, John David (East Carolina Teachers College), Greenville, N. C.
Bruce, James Frederick (Alabama Polytechnic Institute), Opelika, Ala.
Campbell, Lachlan Leigh (Duke University), Newport News, Va.
Canada, Wilma Jeanne (University of Kentucky), Williamson. W. Va.
Conroy, Joseph Alphonse, Jr. (Duke University), New York, N. Y.
Cook, John Samuel, Jr. (Davidson College, University of North Carolina, Temple University), Durham, N. C.
Cooper, Gerald Rice (Duke University), Durham, N. C.
Covington, Alpheus McCullen (Wofford College, Duke University), Rockingham, N. C.
Dick, Frederick William (Meridian Junior College, Duke University), Brookneal, Va.
DuBose, Howard McRoy (Florida Southern College, University of Florida), Tampa, Fla.
Ellis. Fred Wilson (University of South Carolina, University of Florida, University of Maryland, University of North Carolina School of Medicine), Heath Springs, N. C.
Fitz, Thomas Edmunds (University of North Carolina), Reidsville, N. C.
Fraysse, Louis Augustus, III (College of Charleston, University of South Carolina), Charleston, S. C.

* On leave of absence.

Garrett, Norman Hessen, Jr. (Duke University), Mount Kisco, N. Y.
Georgiade, Nicholas George (Fordham University, Columbia University), Jamaica, N. Y.
Green, John Patterson (University of Florida, Duke University), Jacksonville, Fla.
Hambright, Rufus Roberts (Mars Hill Junior College, Duke University), Grover, N. C.
Hamilton, Edward Lee (Holy Cross College), Springfield, Mass.
Hamlin, Mervyn Ray (Stanford University), Stockton, Calif.
Harris, James Allen (University of Dayton, Duke University), Cincinnati, Ohio.
Harris, Tyndall Peacock (University of North Carolina), Jacksonville, Fla.
Hiatt, Edwin Peele (Wilmington College, Haverford, Duke University, University of Maryland, University of North Carolina School of Medicine), Wilmington, Ohio.
Huff, Albert Burney (Georgia School of Technology, University of Georgia School of Pharmacy), Rome, Ga.
Hunter, Murray B. (Brooklyn College, State University of Iowa), Brooklyn, N. Y.
Jennings, Monroe Ruework (Emory and Henry College, Berea College, Peabody College), Beckley, W. Va.
Johnson, Reginald Hall, Jr. (University of Pittsburgh), Pittsburgh, Pa.
Joy, Vincent Anthony (Fordham University), New York, N. Y.
Kerns, Thomas Cleveland, Jr. (University of North Carolina), Durham, N. C.
Keye, John Dudley, Jr. (Duke University), Los Angeles, Calif.
Kornegay, Grey Bryan (University of North Carolina School of Pharmacy, University of Minnesota), Mt. Olive, N. C.
Leone, Nicholas Charles (University of California College of Pharmacy, Harvard University School of Public Health, University of California, Yale University), Oakland, Calif.
Lesesne, John Mitchell (The Citadel, The General Theological Seminary), Charleston, S. C.
Levinthal, Atala Jane Scudder Davison (Barnard College, Duke University, Swarthmore College), Richmond, Calif.
Lewis, Charles Pell, Jr. (Washington and Lee University), St. Albans, W. Va.
Lewis, Leonard Abram (University of Florida, Alabama Polytechnic Institute), Miami, Fla.
Lyons, William Reginald (Queen's University, University of California), Berkeley, Calif.
Magee, William Edwin (Duke University), Columbia, S. C.
Mairs, Daniel Atlee (Duke University), Charleston, W. Va.
*Mathisen, Glenn Estes (William and Mary College, Duke University), Norfolk, Va.
McCandless, Dean (Kansas State College of Agriculture and Applied Ściences, Duke University), St. John, Kan.
McKay, Buchanan McMaster (University of South Carolina), Columbia, S. C.
Messer, Henry Davis (Duke University), Madison, Fla.
Miller David Critcherson (Antioch College, University of Chicago; Northwestern University), New Market, N. H.
Murdaugh, Herchel Victor, Jr. (The Citadel), Orangeburg, S. C.
Newell, Ernest Tittle (Duke University), Waynesville, N. C.
Osterhout, Suydam (Princeton University), Massapequa, N. Y
Overman, John Reagan (Duke University, Washington and Jefferson College, George Washington School of Medicine), Marion, Ind.
Patrick, Simmons Isler (Wake Forest College), Washington, N. C.
Richardson, William Lawson (East Tennessee State College), Johnson City, Tenn.
Rippy, William Dennis (Elon College), Gibsonville, N. C.
Rucker, Douglas Pendleton (University of Virginia, Randolph-Macon College), Richmond, Va.
Russell, Philip Everitt (Duke University), Glencoe, Ill.
Schuyler, Leonard Herbert (City College of New York), New York, N. Y.
Sellers, Thomas Duncan (College of William and Mary, Duke University, Johns Hopkins), Norfolk, Va.
Seymour, Charles Floyd (University of Florida), Panama City, Fla.
Shingleton, Gerald Coburn (Atlantic Christian College, Duke University), Wilson, N. C.
Smeltzer, Dave Harvey (Duke University), Youngstown, Ohio.
Stewart, Robert Maxwell (University of Florida), Gainesville, Fla
Sullivan, Margaret Patricia (Schreiner Institute, Rice Institute), Kerrville, Texas.
Sylvester, Joseph George (University of Vienna), Florence, S. C.
Vogel, John Leslie (Duke University), Louisville, Ky.
Williams, Charles David, Jr. (Wofford College), Spartanburg, S. C.
Worthington, John William, Jr. (Franklin and Marshall College), San Diego, Calif.
Youngs, Harry Hill, Jr. (Rutgers University), Grantwood. N. J.

## SCHOOL OF NURSING

## Freshman Class

Arab, Nadya (Woman's College of the University of North Carolina), Fayetteville, N. C. Bagwell, Robina Norwood (Duke University), Spartanburg, S. C. Baynes, Julia Belle (Duke University), Hurdle Mills, N. C.
Bizzell, Betsy Bryan (Mars Hill Junior College), Fayetteville, N. C.
Britt, Joanne Harriet (Mars Hill Junior College), Fayetteville, N. C.
Champion, Evelyn Lucille (Woman's College of the University of North Carolina), Fayetteville, N. C.
Clowers, Evelyn Rae (Concord College), Mullens, W. Va.
*Died, November 11, 1949: auto accident.

Curtis, Sara Evelyn (East Tennessee State College), Washington College, Tenn.
Dyer, Mary Ann (Lynchburg College), South Boston, Va.
Elliott, Louise Elizabeth (Duke University), Durham, N. C.
Ellwanger, Elizabeth Ann (University of Louisville), Louisville, Ky.
Fish, Barbara Dee (Wesleyan College), Buckhannon, W. Va.
Fry, Sarah JoeAnne (Duke University), McKeesport, Pa.
Gadd, Ann Welton (Concord College), Princeton, W. Va.
Greene, Elizabeth Kennedy (St. Petersburg Junior College), St. Petersburg, Fla.
Hergert, Virginia Lou (University of Miami), Coral Gables, Fla.
Hobbs, Betty Milliner (Madison College), Locustville, Va.
Jarvis, Vera Corrine (Florida State College), Orlando, Fla.
Kelbert, JoAnn (Florida State College), Bradenton, Fla.
King, Edna Argyle (Maryville College), Charlotte, N. C.
Kline, Eleanor Marie (Alfred University), Frewsburg, N. Y.
Kohlmeier, Annette (Florida State University), North Miami, Fla.
McCaskill, Mary Rachel (Flora Macdonald College), Carthage, N. C.
McCullough, Kathryn (University of Wisconsin), Grosse Pointe, Mich.
McIver, Ella George (Mars Hill Junior College), Siler City, N. C.
McLean, Joyce Condre (Creensboro College), Aberdeen, N. C.
McMillan, Harriet Jane (Furman University), Denmark, S. C.
Mahaffey, Nora E. (Mars Hill Junior College), Lancaster, S. C.
Massey, Patricia Anne (Winthrop College), Rock Hill, S. C.
Miller, Mildred Blackburn (King College), Pulaski, Va.
Moore, Margaret Ann (Peace Coliege), Smithfield, N. C.
Moss, Marilyn Ruth (Florida Southern College), Bradenton, Fla.
Nielsen, Karen Gale (Duke University), Durhain, N. C.
Page, Virginia Corine (St. Mary's College), Raleigh, N. C
Painter, Frankie Jean (Queens College), Charlotte, N. C.
Peyton, Marion Elizabeth (Rice Institute), Alexandria, Va.
Pike, Mary Eloise (Duke University), Beaufort, S. C.
Prosser, Betty Faye (Queens College), Lake City, S. C.
Reece, Patricia Ann (Duke University), Winston-Salem, N. C.
Rodgers, Patricia Eileen (Duke University). Cranford, N. J.
Shand, Nancy (University of Pennsylvania), Wynnewood, Pa.
Smith, Jessie R. (Duke University), Kinston, N. C.
Stevens, Cynthia Landis (Flora Macdonald College), Smithfield, N. C.
Tabler, Eleanor Virginia (Marion College), Martinsburg, W. Va.
Teague, Mildred Faye (Woman's College of the University of North Carolina), WinstonSalem, N. C.
Topham, Carol Clawson (Salein College). Clearwater Beach, Fla.
Wetherington, Elinor Mae (Florida State). Miami, Fla.
Williamson, Vera Elizabeth (Mars Hill Junior College), Durhann, N. C.
Winegeart, Sallie Ann (Duke University), Jacksonville, Fla.

## Junior Class

Allen, Margaret (Michigan State College), East Lansing, Mich.
Bartlett, Lorene M. (Fredonia State Teachers College), Forestville, N. Y.
Bonniville, Roxie A. (Meredith College), Norfolk, Va.
Cato, Alma S. (Winthrop College), Monetta, S. C.
Coleman, Betty J. (Mars Hill Junior College). Winston-Salem, N. C.
Coleman, Norma L. (Mars Hill Junior College), Winston-Salem, N. C.
Cook, Annie L., Newton, N. C.
Cress, Vivian E. (Pfeiffer Junior College), Concord, N. C.
Erskine, Betty (Wake Forest College), Anderson, N. C.
Herndon, Mary Y. (Greensboro College), Durham, N. C.
Hiltzheimer, Jane (Wesleyan College), Pulaski, Va.
Hughes, Martha B. (Duke University), Bartow, Fla.
Jaeger, Margaret A. (University of Tennessee), Knoxville, Tenn.
Jenkins, Lucia M. (Stratford Junior College), Charleston, S. C.
Ledford, Ethel A. (Brevard College). Harrisburg, N. C.
Lewis, Myrtha R. (Catawba College), Selbyville, Del.
Mahaffee, Margaret F. (Mitchell College), Gaffney, S. C.
Menefee, Mary Ann (Duke University), Luray, Va.
Morris, Jaqueline (Winthrop College), Charleston, S. C.
Muldrow, Leonora J. (Winthrop College), Sumter, S. C.
Nicholson, Mary (Winthrop College), Edgefield, S. C.
Parsons, Nancy E. (Pfeiffer Junior College). Candor, N. C.
Perkins, Carolyn (Milligan College), Clintwood, Va.
Plyler, Anna C. (Winthrop College), Chester, S. C.
Rigell, Peggy J. (Florida State University), Punta Gorda, Fla.
Scott, Jane (Roanoke College), Salem, Va.
Smith, Isabel J. (Wheaton College). Burlington, N. C.
Snell, $^{2}$ Anne M. (Peace College), Winston-Salem, N. $\dot{\mathrm{C}}$
Stanford, Tean E. (Roanoke College), Salem, Va.
Stewart, Mildred L. (East Tennessee State College), Johnson City, Tenn.
Sutherland, Dottye L. (Salem College). Cincinnati, Ohio.
Tate, Mar Jo (Louisiana State College), Baton Rouge, La

Teal, Betty J. (Greensboro College), Pine Bluff, N. C.
Tisdale, Suetta (Winthrop College), Sumter, S. C.
Trulove, Martha J. (Mars Hill Junior College), Greensboro, N. C.
Turner, Katherine (Alabama State College for Women), Rome, Ga.
Walters, Pauline J. (Maryville College), New Market, Tenn.
Watson, Betty J. (Florida State University), Punta Gorda, Fla.
Williams, Roberta E. (Florida State University), Jacksonville, Fla.

## Senior Class

Anderson, Carol (Concord College), Princeton, W. Va.
Anderson, Mary Ella (Berry College), Woodruff, S. C.
Arey, Margaret (University of Richmond), Harrisonburg, Va.
Baker, Betty H. (Elon College), Carthage, N. C.
Beacham, Marian E. (Armstrong Junior College), Savannah, Ga.
Black, Alice E. (East Tennessee State College), Johnson City, Tenn
Blackwell, Irene O. (Campbell College), Edenton, N. C.
Bray, Dorothy E. (Elon College), Elizabeth City, N. C.
Burnham, Carol Jean (Duke University), Durham, N. C
Chandler, Polly L. (University of North Carolina), Salisbury, N. C.
Chappell, Johanna M. (John B. Stetson University), Jacksonville, Fla.
Cornwell, Polly (Erskine College), Chester, S. C.
Croom, Bobbie Jane (Winthrop College), Mullins, S. C.
Farrar, Catherine L. (Radford College), South Hill, Va.
Gatewood, Frances W. (Stratford College), Danville, Va.
Gatlin, Jean M. (St. Mary's College), Bayboro, N. C.
Hamlen, Nancy A. (Duke University), New London, Conn.
Hickman, Alice (Winthrop College), Loris, S. C.
Howard, Marolyn (University of Buffalo), Snyder, N. Y.
Johnson, Mary A. (University of North Carolina), Henderson, N. C.
Lee, Ethel Romines (University of North Carolina), Washington, D. C.
Lewis, Mary J. (North Caroline College Centers), Wilmington, N. C.
Lowder, Hilda G. (Wake Forest College), Norwood. N. C.
Mason, Mary J. (St. Mary's College), Freehold, N. J.
Murray, Margaret B. (Farmville State Teachers College), Covington, Va.
Nelson, Hilda Olive (Mars Hill Junior College), Durham, N. C.
Parker, Athelle Coleman (Campbell College), Lillington, N'. C.
Perkins, Mary Faye (Meredith College), Pikeville, N. C
Perkins, Nell Rose (Milligan College), Clintwood, Va.
Powell, Roberta A. (Catholic University of America), Raleigh, N. C.
Purkall, Maude E. (Junior College of Augusta), Augusta, Ga.
Rainey, Virginia D. (Madison College), Newport News, Va.
Reynolds, Mamie Pierce (Flora Macdonald College), Apex, N. C.
Ruffin, Jean Roller (State Teachers College), Roanoke, Va.
Rutherford, Ann M. (University of Cincinnati), Charleston, W. Va.
Sears, Laura A. (Madison College), Norfolk, Va.
Smith, Gloria Chaney (William and Mary College), Martinsville, Va.
Thomas, Corinna (Radford College), Ferrum, Va.
Thompson, Winifred (University of North Carolina), Chapel Hill, N. C.
Thornton, Mary Ruth (Carson-Newman College), Knoxville, Tenn.
Van Cleve, Patricia (Stockton Junior College), Honolulu, Hawaii
Winslow, Esther E. (Guilford College), Belvidere, N. C.
Wylie, Phyllis M. (University of North Carolina), Spindale, N. C.

## SCHOOL OF FORESTRY

[^56]*Hawkins, William Theron (B.S., Furman University), Taylors, S. C.
*Hosner, John Frank (B.S.F., Michigan State College), Gillespie, Ill.
*Johnson, Ernest Sigurd (B.S., New York State College of Forestry), Raleigh, N. C.
*Johnson, Robert Bruce (B.S., Virginia Polytechnic Institute), Norfolk, Va.
${ }^{1}$ Jones, Austin Freeman (B.S., Stephen F. Austin State Teachers College), Winnsboro. S. C.
*Jones, Edward Earl (B.S., Duke University), Durham, N. C.
*Kinghorn, James Myles (B.S.F., University of British Columbia), Victoria, B. C.
*Knight, Fred Barrows (B.S., University of Maine), Waterville, Me.
${ }^{*}$ Knudsen, Lyle Leonard (B.S., Morningside College), Battle Creek, Ia.
†Labyak, Leo Francis (B.S.F., Michigan College of Mining and Technology; M.F., Duke University), Ontonagon, Mích.
**Ledford, Roy Henry (B.S., Berea College), Barnardsville, N. C.
*Lowery, David Perry (B.S., University of Akron; B.S., Michigan State College), Akron, Ohio.
**Maple, William Robert (B.S., Rutgers University), Lawrenceville, N. J.
*Marlow, Ernest Grant (B.S., Duke University), Front Royal, Va.
**May, Robert Legard (B.S., Virginia Polytechnic Institute), Glade Spring, Va.
*Newman, Walker Preston (B.S., Virginia Polytechnic Institute), Arlington, Va
***Parker, Johnson (A.B., Harvard College; M.F., Yale University), Cambridge, Mass.
**Peabody, Arthur William, II (B.S., Rutgers University), Stelton, N. J.
*Pfeiffer, Jack Russell (B.S., Colorado A. \& M. College), Denver, Colo.
**Phythyon, Hugh Reed (B.S., Allegheny College), Sharpsville, Pa.
*Porter, John Allamong (B.S., West Virginia University), Morgantown, W. Va.
${ }^{*}$ Powers, Harry Robert, Jr. (B.S., North Carolina State College), Norfolk, Va.
**Ray, Philip Lancaster (B.S., University of Minnesota), Greenville, S. C.
*Smith, Bernard Fletcher (B.S., North Carolina State College), Norfolk, Va.
*Smith, David V. (B.S.F., University of Georgia), Lumpkin, Ga.
***Smith, Richard Chandler (B.S., University of Minnesota; M.F., Duke University), St. Paul, Minn.
**Smith, Waring Wright, Jr. (B.S., Virginia Polytechnic Institute), Franklin, Va.
*Smithey, John Willie (B.S., Louisiana Polytechnic Institute), Heflin, La.
*Sprague, Edward Dubois (B.S., University of Massachusetts), Lynn, Mass,
*Thomasson, Gerald Ste. Gemme (B.S., University of Missouri), Columbia, Mo.
*Thompson, Lawrence Nathaniel, Jr. (B.S.F., University of Georgia), Mt. Vernon, Ga.
*Thorne, Harry Wallace (B.S., University of Massachusetts), Wakefield, Mass.
*Turpin, David Howard (B.S., Duke University), Bedford, Va.
Warner, John Robinson (B.S., Duke University; M.F., Duke University), Walkersville, Md.
*Wright, Kenneth Harold (B.S.F., University of Washington), Seattle, Wash.
***Wu, Chung-lwen (B.Agr., University of Nanking; M.F., Yale University), Feng-chiao, Chuchi, Chekiang, China.
*Wyckoff, Peter Judson (B.S., Michigan State College), Greencastle, Ind.
Zak, Bratislav (B.S., Pennsylvania State College; M.F., Duke University), Pittsburgh, Pa.
*Zirkle, John Jacob, Jr. (B.S., Colorado A. \& M. College), New Market, Va.

## Students of Forestry in the Graduate School of Arts and Sciences

Boyce, John Shaw, Jr. (B.S., Yale University; M.F., Yale University), New Haven, Conn. Bryant, Ralph Clement (B.S., Yale University; M.F., Yale University), New Haven, Conn. Knudsen, Lyle Leonard (B.S., Morningside College), Battle Creek, Ia.
Metz, Louis John (B.S., Michigan State College; M.F., Duke University), Crawford, Colo.
Wenger, Karl Frederick (B.S., University of Maine; M.F., Duke University), Buckingham, Va.

## Academic-Forestry Seniors in the School of Forestry

Barnes, Robert Lloyd. Royersford. Pa.
Foreman, Edwin Earl. Durhañ, N. C.
Gilmer, William Dryden. Kingsport, Tenn.
Hawes, Raymond Burke. Northport, N. Y.
Massey, William Everard, Jr. Charlotte, N. C.
Williams, Webster Douglas. Pinopolis, S. C.
Zahner, Robert. Highlands, N. C.

* Registered for the Master of Forestry Degree, 1950.
** Registered for the Master of Forestry Degree, 1951.
1 Withdrew, October, 1949.
$\dagger$ Registered for Doctor of Forestry Degree, 1951.
** Registered for the Doctor of Forestry Degree, 1950.


## SUMMARY

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Associate Professors ..... 90
Assistant Professors ..... 105
Instructors ..... 163
Instructional Assistants ..... $20^{* *}$
Staff of University Libraries ..... 64
Total ..... 758
STUDENTS
Trinity College ..... 2,341
Freshmen ..... 691
Sophomores ..... 551
Juniors ..... 583
Seniors ..... 472
Special Students ..... 44
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Juniors ..... 103
Seniors ..... 104
Woman's College ..... 1,166
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## GIFTS AND BEQUESTS

Duke University derives its principal support from endowment funds and from miscellaneous gifts and grants. Permanently invested capital funds enable the University to offer to students academic and professional training at a fraction of its actual cost. The effectiveness of the University is determined to a large extent by its financial resources.

Gifts and bequests devoted to the improvement of the work of the University will be received and administered by the trustees in accordance with the desires of the donor.

Gifts. Any kind of property, real or personal, may be the subject of a gift and only such form as is required to pass title is necessary. If the gift consists of real property, the title will be passed by deed; if it consists of cash or unregistered bonds, the gift is consummated by delivery of the property; or if stocks, by delivery of properly endorsed stock certificates. Unless restricted, the use of gifts is at the discretion of the Board of Trustees. Usually the proceeds, conservatively invested, are added to the permanent endowment of the University. The donor may, however, restrict the use of any gift and designate definitely the objects for which it shall be used. In such cases, the transfer of property would be accomplished by a letter or other documents describing in detail the objects for which the proceeds of the gift are to be used and when accepted by the University the term or conditions set out therein become binding upon it.

Bequests. Bequests may be made to the University by an appropriate clause inserted in a will by codicil to a will already drawn. The following forms will serve as appropriate clauses for wills or codicils:

## General

I give (devise; if real property) and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, and its successors forever, the sum of. dollars (or otherwise describe the gift) for the general purposes and uses of the University at the discretion of the Board of Trustees.

## Specific

I give (devise; if real property) and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, or its successors forever, the sum of dollars (or otherwise describe gift) and direct that the income therefrom shall be used for the following purposes, viz. (here describe in detail the use desired).

## Codicil

Having hereinbefore made my last Will and Testament dated




[^0]:    * Absent on sabbatical leave, second semester, 1949-50.
    ** Absent on sabbatical leave, first semester, 1950-51.
    *** Employed part-time.

[^1]:    ${ }^{1}$ Grades for each hour of college credit and also for credit earned in the School of Forestry are valued in quality points as follows: "A," 3 points; " $B$," 2 points; "C," 1 point; " $D$," no points; and " $F$," no credit and -1 point.

[^2]:    * Registered for the Master of Forestry Degree, 1950.
    ** Registered for the Master of Forestry Degree, 1951.
    1 Withdrew, October, 1949.
    $\dagger$ Registered for Doctor of Forestry Degree, 1951.
    *** Registered for the Doctor of Forestry Degree, 1950.

[^3]:    * Absent on sabbatical leave, second semester, 1949-50.
    ** Resigned, September 1, 1949 .

[^4]:    * Any deficiency in this requirement may be made up before graduation.
    ** Any deficiency in this requirement shall be made up before the beginning of the sophomore year.
    $\div$ One elective unit in any of the above languages will be acceptcd for admission provided the language requirement has been satisfied without it. As many as four units will be accepted in any one of these languages.

[^5]:    * Offered only upen sufficient demand; enrollment limited.

[^6]:    * In the grading of graduate students, " $E$ " (exceptional) is the highest mark; " $G$ " (good), the next lower; and " S " (satisfactory) indicates work of an acceptable but not distinguished quality. " $F$ " (fail) indicates that the work of the student is below passing. In a course in which both graduates and undergraduates are enrolled, the grade " S " represents approximately an 80 per cent rating.
    $\dagger$ In meeting the requirements for the A.B. or B.S. degree at Duke University, a student is not allowed excessive concentration in any one field. The same principle is applied in evaluating the undergraduate record of candidates for admission to the Graduate School.

[^7]:    June 18 Dr. Frank S. Hickman, Preacher to the University.
    25 Dr. Frank S. Hickman, Preacher to the University.
    July 2 The Reverend Professor James T. Cleland, Preacher to the University.
    9 The Reverend Professor James T. Cleland, Preacher to the University.
    16 The Reverend Professor James T. Cleland, Preacher to the University.

[^8]:    PROFESSOR BRADY R. JORDAN゙, CHAIRMAN OF DEPARTMENT OF ROMANCE LAN゙GUAGES AND DIRECTOR OF GRADUATE STUDIES-214 CARR BUILDING (EAST CAMPUS); ASSOCIATE PROFESSOR GIFFORD DAVIS, DIRECTOR OF THE SCHOOL OF SPANISH STUDIES-213 CARR BUILDING (EAST CAMPUS)

[^9]:    Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

[^10]:    * Resigned, September 1, 1949.
    $\dagger$ Resigned, June 30, 1949.

[^11]:    * Resigned, June 30, 1949.
    $\div$ Absent on sabbatical leave, 1949-50.

[^12]:    *Resigned, September 1, 1949.

[^13]:    * Absent on sabbatical leave, first semester, 1949-50.
    $\div$ Resigned, September 1, 1949.
    $\ddagger$ Absent on sabbatical leave, first semester, 1950-51.

[^14]:    * Absent on leave, 1949-50.
    $\dagger$ Absent on leave, 1950.
    * Resigned, September 1, 1949.
    ** Resigned, April 1, 1949.

[^15]:    * Resigned, September 1, 1949.
    $\uparrow$ Absent on sabbatical leave, 1950-51.

[^16]:    ${ }^{*}$ Courses open primarily to freshmen are mumbered from 1 to 49 and a list of them is given under "Courses of Instruction, Trinity College and the Woman's College."

[^17]:    * The requirement is the same as for the Degree of Bachelor of Science, except that Spanish may be substituted for French.

[^18]:    * Any deficiency in this requirement shall be made up before the beginning of the sophomore year.
    $\dagger$ Students who do not present at least one acceptable unit of history must take history in college.

[^19]:    * Credit toward the degree of B.S. in Nursing Education is given for these courses.

[^20]:    * First-year students do not have the holiday at the end of this quarter; instead they have a holiday from February 8-14, inclusive, 1950.
    $\dagger$ First-year students do not have the holiday at the end of this quarter; instead they have a holiday from February 7-13, inclusive, 1951.

[^21]:    *See footnote on the next page.

[^22]:    * The clinical instruction is repeated each quarter in order to utilize all the clinical material and to have small groups of students. Consequently, students may vary the order of the seventh, eighth, and ninth quarters, and also the order of the tenth, eleventh. and twelfth quarters. The above schedule merely illustrates the program of one group.

[^23]:    * This test is given at many of the colleges during the spring and autumn terms. It

[^24]:    * Rooms may be reserved by medical students in Few Quadrangle. These rooms are provided with furniture, heat, electric light, and care of rooms; each student furnishes his own blankets, sheets, pillow-slips, towels, and pillows. Applications for rooms, accompanied by a reservation fee of $\$ 25$, should be made by writing to Mr. W. E. Whitford, Duke U:iversity, Durham, N. C.
    $\dagger$ Payable at the beginning of the quarter in which a student is eligible for the examination.

[^25]:    * On leave, 1950-51.

[^26]:    Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

[^27]:    BOSLEY, HAROLD A., A.B., B.D., Ph.D., D.D.* Dean of the Dizinity School, Professor of Philosophy of Religion BEACH, WALDO, A.B., B.D., Ph.D. Associate Professor of Christian Ethics
    BROWNLEE, WILLIAM HUGH, A.B., Th.B.. Th.M., Ph.D. Assistant Professor of the Old Testament
    CANNON. JAMES, iif, A.B., A.M., Th.B., Th.M., D.D. Izey Professor of the History of Religion and Missions CL.ARK, KENNETH WILLIS, A.B., B.D., Ph.D. $\dagger$ Professor of Nez Testament
    CLELAN゙D, JAMES T., M.A., B.D. (Glasgow), S.T.M. Professor of Preaching CUSHMAN, ROBERT E., A.B., B.D., Ph.D. Professor of Systematic Theology
    DICKS, RUSSELL L., A.B., B.D.. D.D., Litt.D. Associate Professor of Pastoral Care
    EHLHARDT, GEORGE BRINKMANN, A.B., B.D.* Registrar and Librarian of the Divinity School
    HICKMAN, FRANKLIN SIMPSON, A.B., A.M., S.T.B., Ph.D., D.D. Professor of Psychology of Religion
    MYERS, HIRAM EARL, A.B., S.T.B., S.T.M., D.D. Professor of Biblical Literature
    ORMOND. JESSE MARVIN, A.B.. B.D., D.D. Professor Emeritus of Practical Theology PETRY, RAY C., A.B., A.M., Ph.D., LL.D. Professor of Church History
    ROWE, GILBERT THEODORE, A.B., S.T.D., D.D., Litt.D. Professor Emeritus of Christian Doctrine RUDIN, JOHN JESSE, II, A.B.. B.D., M.A. Assistant Professor of Speech
    RUSSELL, ELBERT, A.B., A.M., Ph.D., Litt.D. Dean Emeritus of the Dirinity School
    SCOTT, ERNEST FINDLAY, A.B. (Oxon.), M.A.. D.D., LL.D. Visiting Professor of New Testament, 19.49-1950
    SMith, HilRIE SHELTON, A.B.. Ph.D.. D.D., Litt.D. Professor of American Religious Thought
    SPENCE, HERSEY EVERETT, A.B.. A.M., B.D., D.D., Litt.D. Professor of Religious Education
    STINESPRING, WILLIAM FRANKLIN, B.A., M.A., Ph.D. Professor of Old Testament
    WALTON, ARLEY JOHN, A.B., B.S.L., D.D. Associate Professor of Practical Theology and Director of Field Work YOUNG, FR.ANKLIN WOODROW, A.B., B.D., Ph.D. $\ddagger$ Assistant Professor of Biblical Theology BARNES, JAMES FOSTER, A.B., A.M. Lecturer on Church Music

    * Resigned, effective as of end of academic year 1949-50.
    $\dagger$ On leave, 1949-50.
    $\ddagger$ Resigned, effective August 31, 1950.

[^28]:    * On recommendation of the Registrar, courses offered in the Graduate School of Arts and Sciences other than those approved for credit in the Divinity School may be approved for credit in individual cases, provided no equivalent course is offered in the Divinity School; each case to be decided on its merits.

[^29]:    * General Fees, in lieu of most special charges, include the following fees: Matriculation, Medical, Library, Damage, Commencement, Diploma, and an average of the Laboratory and Materials Fees.

[^30]:    An Act to Incorporate Union Institute, in Randolph County, a Nornal College: $\dagger$
    Section 1. Be it enacted by the General Assembly of the State of North Carolina, and it is hereby enacted by the authority of the same, That the present Trustees of Union Institute, to-wit: M. W. Leach, Ahi Robbins, Joseph Johnson, James Leach, and C. M. Hines; together with Rev. B. Craven, of said Institute; Hon. A. H. Sheppard, of Salem; John A. Gilmer, Esq., of Greensboro; Col. Samuel Hargrave, of Lexington; J. L. Blackmer, Esq., of Salisbury; Rev. S. A. Andrews, of Greensboro; Dr. S. G. Coffin, of Jamestown; H. B. Elliott, Esq. of Randolph; J. W. Thomas, Esq., of Davidson; John B. Troy, of Randolph; J. P. H. Russ, of Randolph; Eli Russell, of Montgomery, and Gen. J. M. Leach, of Lexington; and their successors be, and they are hereby declared, a body politic and corporate, to be known and distinguished by the name and style of the Normal College, and by that name shall have a perpetual succession, and a common seal, and be able and capable in law, of holding lands, tenements and chattels, sufficient for the uses and purposes of said College, and of suing and being sued, and of pleading and being impleaded.

    SEc. 2. Be it further enacted, That said Trustees shall have the power to fix the time of holding the annual and other meetings, and to prescribe the manner in which vacancies in their body may be filled, five Trustees being a quorum to do business.

    Sec. 3. Be it further enacted, That the said College shall be under the supervision, management and government of a President and such other persons as said Trustees may appoint; the said President, with the advice of the other persons so appointed, shall from

[^31]:    * Laws of 1852-1853, chapter 88, page 161 .

[^32]:    * Laws of $1858-1859$, chapter 85 , page 81 .

[^33]:    * Absent on leave, 1950-51.

[^34]:    * Resigned, effective August 31, 1950.

[^35]:    * Resigned, effective August 31, 1950.

[^36]:    * Absent on sabbatical leave, second semester, 1949-50.
    $\dagger$ Absent on leave, 1950-51.

[^37]:    - Resigned, September 1, 1949.
    $\dagger$ Resigned, effective August 31, 1950.

[^38]:    * Absent on sabbatical leave, 1950-51. $\dagger$ Absent on leave, July, 1949, to July, 1951. $\ddagger$ Absent on sabbatical leave, second semester, 1950.51.
    ** Absent on sabbatical leave, first semester, 1950-51.

[^39]:    * Absent on leave, 1950-51.
    $\dagger$ Resigned, effective August 31, 1950.

[^40]:    * Resigned, effective August 31, 1950.

[^41]:    *Courses open primarily to freshmen are numbered from 1 to 49 and a list of them is given under "Courses of Instruction, Trinity College and the Woman's College."

[^42]:    *The requirement is the same as for the Degree of Bachelor of Science, except that Spanish may be substituted for French.

[^43]:    * Any deficiency in this requirement shall be made up before the beginning of the sophomore year.

[^44]:    $\dagger$ Students who do not present at least one acceptable unit of history must take

[^45]:    * In meeting the requirements for the A.B. or B.S. degree at Duke University, a student is not allowed excessive concentration in any one field. The same principle is applied in evaluating the undergraduate record of candidates for admission to the Graduate School.

[^46]:    * General Fees, in lieu of most special charges, include the following fees: Matriculation, Medical, Library, Damage, Commencement, Diploma, and an average of the Laboratory and Materials Fees.

[^47]:    * On recommendation of the Registrar, courses offered in the Graduate School of Arts and Sciences other than those approved for credit in the Divinity School may be approved for credit in individual cases, provided no equivalent course is offered in the Divinity School; each case to be decided on its merits.
    $\dagger$ Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

[^48]:    - Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity. For a description of the course, see the catalogue of the Graduate School.

[^49]:    - See footnote on the next page.

[^50]:    * This test is given at many of the colleges during the spring and autumn terms. If information is not available locally, it may be obtained from the Educational Testing Service, P.O. Box 592, Princeton, N. J.

[^51]:    * Rooms may be reserved by medical students in Few Quadrangle. These rooms are provided with furniture, heat, electric light, and care of rooms; each student furnishes his own blankets, sheets, pillow-slips, towels, and pillows. Applications for rooms, accompanied by a reservation fee of $\$ 25$, should be made by writing to Mr. W. E. Whitford, Duke University, Durham, N. C.
    $\dagger$ Payable at the beginning of the quarter in which a student is eligible for the examination.

[^52]:    ${ }^{1}$ Grades for each hour of college credit and also for credit earned in the School of Forestry are valued in quality points as follows: "A," 3 points; " $B$," 2 points; "C," 1 point; "D," no points; and " $F$," no credit and -1 point.

[^53]:    "In the grading of graduate, students, " $E$ " (exceptional) is the highest mark; " $G$ " (good), the next lower; and " S " (satisfactory) indicates work of an acceptable but not distinguished quality. " F " (fail) indicates that the work of the student is below passing. In a course in which both graduates and undergraduates are enrolled, the grade " S " represents approximately an 80 per cent rating.

[^54]:    $\dagger$ In meeting the requirements for the A.B. or B.S. degree at Duke University, a student is not allowed excessive concentration in any one field. The same principle is applied in evaluating the undergraduate record of candidates for admission to the Graduate School.

[^55]:    * Entered Trinity Collcge Sept. '48 to Feb. '50.

[^56]:    *Avery, Thomas Eugene (B.S.F., University of Georgia), Atlanta, Ga.
    **Bree, Jacobus Christiaan (B.S., State College of Tropical Agriculture at Deventer, Holland), The Hague, Holland.
    *Cairns, Frank Elmer, Jr. (B.S., Duke University), Madison, Wis.
    ${ }^{*}$ Campbell, Craig Carol (B.S., Duke University), University, N. C.
    ${ }^{* *}$ Cantelou, Lamar Black (A.B., University of the South), Montgomery, Ala.
    Chalfant, Jesse Wayne (B.S., Pennsylvania State College; M.F., Yale Úniversity, 1941), Raleigh, N. C.
    *Collicott, Lloyd Vincent (B.S., Duke University), Durham, N. C.
    *Côté, Wilfred Arthur. Jr. (B.S., University of Maine), Williamantic, Conn.
    ${ }^{*}$ Cyphers, Harry Wolfe, Jr. (B.S., Rutgers University), Ridgefield Park, N. J.

    * Davison, Alexander Thayer (B.S., Duke University), Durham, N. C.

    Deetlefs, Philippus Petrus du Toit (B.S., University of Stellenbosch; M.F., Duke University), Clanwilliam, So. Africa.

    * Doolittle, Warren Truman (B.S.F., Iowa State College), Webster City, Ia.
    *Evans, Gerald Wilbert (B.S., Duke University), Connellsville, Pa.
    * Gabriel, William John (B.S., University of New Hampshire), Springfield, Ill.
    * Gill, Robert C. (A.B., Duke University), Pelham Manor, N.' Y.
    *Gilmore, Alvan Ray (B.S.F., University of Florida), Pensacola, Fla.
    *Glabau, William Edward (B.S., University of Massachusetts), New Britain, Conn.
    ${ }^{*}$ Hallberg, Russell Kurt (B.S.F., Michigan State College), Chicago, Ill.

